PART B

SOLAR - GEOPHYSICAL DATA

ISSUED
NOVEMBER 1958

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 171
PART B

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CONTENTS

Ionospheric Effects -- A second table lists sudden ionospheric disturbances which have been recognized on recorders for detecting cosmic absorption at about 18 Mc (SCNA) or on recorders for detecting enhancements of low frequency atmospherics at about 27 kc (SEA) together with solar radio noise bursts at 18 Mc as identified on the SCNA records.

Reports are received either directly or through the IGY World Data Center for Solar Activity at the High Altitude Observatory, Boulder, Colo. The following observatories report SCNA: Rensselaer Polytechnic Institute Observatory, Grafton, N.Y.(RE); McMath-Hulbert Observatory (MC); Sacramento Peak, N.Mex. (SP); High Altitude Observatory, Boulder, Colo. (BO); and the Royal Observatory Edinburgh (ED). All of these except the Royal Observatory Edinburgh also report solar noise bursts observed at 18 Mc. The SEA reports come from the following: Department of Terrestrial Magnetism, Carnegie Institution of Washington, Station at Derwood, Md. (DE); Dunsink Observatory, Ireland (DU); Royal Observatory Edinburgh (ED); three stations operated by the Netherlands PPT at Hollandia, Dutch West Indies (HO), Nederhorst den Berg, Netherland (NE), and Paramaribo, New Guinea (PA); Panska Ves Observatory near Prague, Czech. (PU); High Altitude Observatory, Boulder, Colo. (BO); Sacramento Peak, N.Mex. (SP); McMath-Hulbert Observatory (MC); and a group of American Association of Variable Star Observers located at Brooklyn, N.Y. (A1), Pittsburgh, Pa. (A2), Paterson, N.J. (A3), Powell, Ohio (A4), Ramsey, N.J. (A5), Oshkosh, Wis. (A6), China Lake, Calif. (A7) and Manhattan, Kansas (A8).

These reports are coordinated at CRPL-Boulder. When there is agreement among the various reporting stations on the time (UT) of an event, it is accepted as a widespread phenomenon and listed in the table. Some phenomena are listed, if noted at only one location, if there has been a flare or another type of flare associated effect reported for that time.

In the table under the type of event the importance of the event is given on a scale of 1 minus to 3 plus. Next there is the index of widespread certainty ranging from 1 (possible) to 5 (definite). The time of beginning, maximum and end of the event in UT is given as reported by the station underlined in the group of observing stations. If the event is an SCNA, a percent absorption figure is given. This absorption is calculated by

$$\text{SCNA } \% = \frac{I_n - I_f}{I_n} \times 100$$

where I_n= noise diode current required to give a recorder deflection equal to that which would have occurred in the absence of a

flare, i.e. a value extrapolated from cosmic noise level trend before and after a flare. The previous day's record may be considered if necessary.

and I_f = noise diode current required to give a recorder deflection equal to the level at the time of maximum absorption.

SOLAR RADIO WAVES

169 Mc Interferometric Observations

The 169 Mc interferometric observations are recorded around local noon at Nançay (Cher), France, ($N47°23'$, $E8^m47^s$) the field station of the Meudon Observatory.

The main lobes are parallel to the meridian plane: the half-power width is 3.8 minutes in the East-West direction and much larger than the solar diameter in the North-South direction. The main lobes are about 2° apart (Ann. Astrophys. 20, 155, 1957). The records give the strip intensity distribution from the center of the disk to 30' to the West and East.

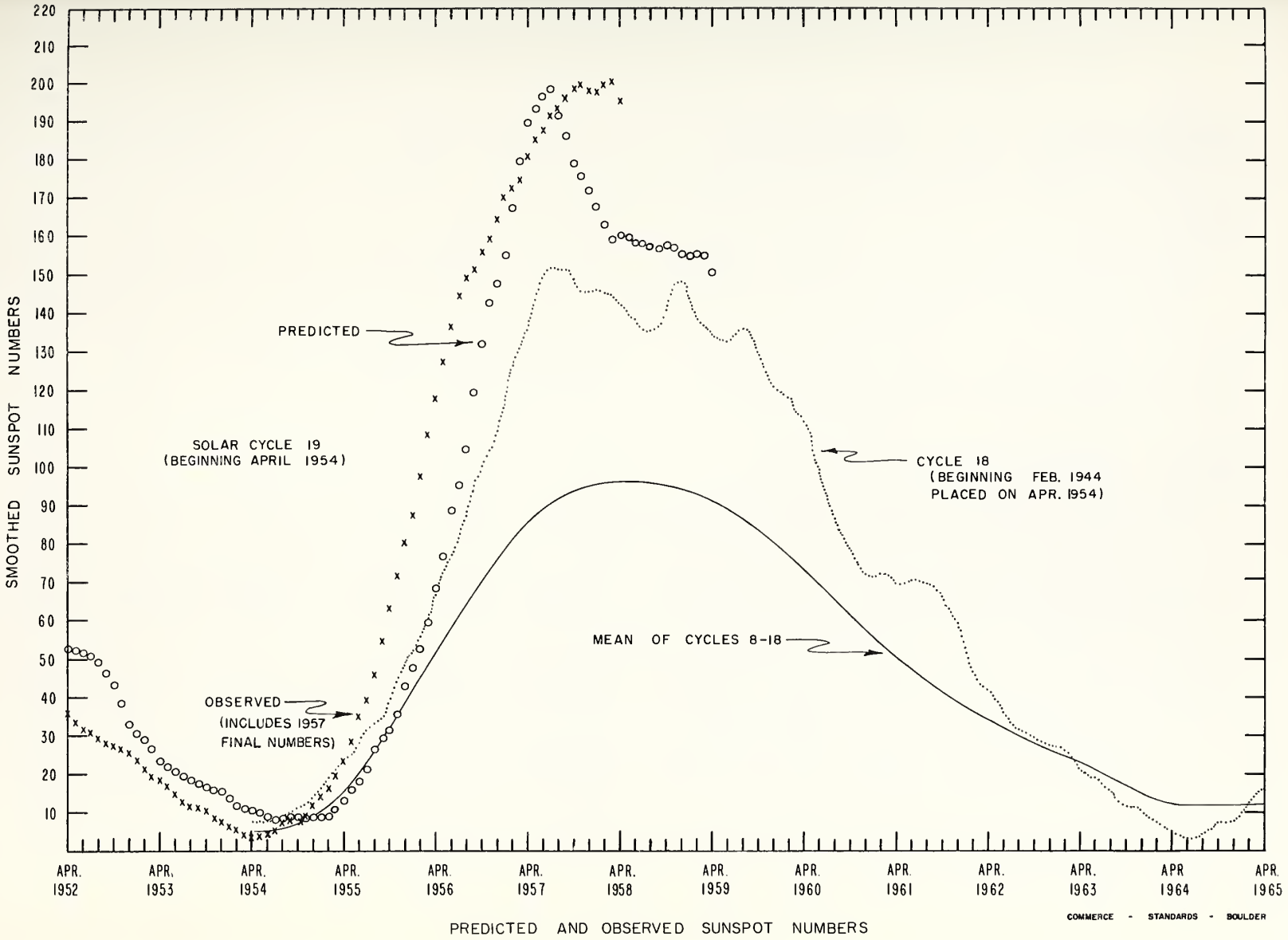
These daily distributions are plotted on the same chart giving diagrams of evolution (C.R. 244, 1460, 1957). Points of intensity 0.5 - 0.75 - 1.0 - 1.5 and 2.0 times 10^{-22} watts/m^2/c/s are joined day after day in the form of isophotes. Black dots give the position of the center of the radio spots for each day; a line indicates the width of the recorded lobe pattern when it can be measured with certainty. For each radio spot the smoothed intensity around noon is given in 10^{-22} watts/m^2/c/s.

Note that the isophotes cannot be measured when a radio spot of large intensity is on the disk.

DAILY SOLAR INDICES

Sept 1958	American Relative Sunspot Numbers $R_{A'}$
1	227
2	204
3	218
4	226
5	229
6	234
7	166
8	164
9	167
10	205
11	230
12	262
13	271
14	233
15	202
16	184
17	214
18	189
19	175
20	175
21	158
22	164
23	173
24	175
25	192
26	153
27	190
28	228
29	180
30	165
Mean:	198.4

Oct 1958	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	210	231
2	217	221
3	200	219
4	155	215
5	152	199
6	132	189
7	120	189
8	105	187
9	109	192
10	117	198
11	106	210
12	114	219
13	133	225
14	136	228
15	149	230
16	219	253
17	208	286
18	235	286
19	225	296
20	231	278
21	202	277
22	242	270
23	230	240
24	173	227
25	166	191
26	158	194
27	152	191
28	172	209
29	200	220
30	187	228
31	210	222
Mean:	173.1	226.5


SMOOTHED SUNSPOT NUMBERS
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
PREDICTED
SOLAR CYCLE 19
(BEGINNING APRIL 1954)
CYCLE 18
(BEGINNING FEB. 1944
PLACED ON APR. 1954)
MEAN OF CYCLES 8-18
OBSERVED
(INCLUDES 1957
FINAL NUMBERS)
APR. 1952
APR. 1953
APR. 1954
APR. 1955
APR. 1956
APR. 1957
APR. 1958
APR. 1959
APR. 1960
APR. 1961
APR. 1962
APR. 1963
APR 1964
APR. 1965
PREDICTED AND OBSERVED SUNSPOT NUMBERS
COMMERCE - STANDARDS - BOULDER

CALCIUM PLAGE AND SUNSPOT REGIONS

CMP Oct 1958	Lat	McMath Plage Number	Return of Region	Calcium Plage Data			Sunspot Data		
				CMP Values Area	Int.	History, Age	CMP Values Area	Count	History
01.4	N27	4786	New	2400	3.5	ℓ — ℓ 1	390	25	ℓ / ℓ
01.7	S10	4784	4737	1200	2	ℓ / ℓ 3			
01.9	S25	4790	4732	800	2	ℓ ⌝\ d 2			
02.0	N16	4788	4733	800	1	ℓ \ d 3			
02.5	N11	4801	4738	200	2.5	ℓ \ d 2			
02.9	N27	4787	4733	1000	1.5	ℓ — ℓ 3			
02.9	N09	4897	4738	(100)	(1)	ℓ \ d 2			
04.0	S13	4791	4739	1800	2	ℓ — ℓ 4,5	60	3	ℓ — ℓ
04.5	N12	4789	4740	1200	2.5	ℓ / ℓ 3	170	2	b ⌜ ℓ
04.9	N40	4812	New	(800)	(3)	b ⌜ ℓ 1			
05.2	S27	4793	4739	400	2	ℓ / ℓ 4,5			
05.3	S11	4792	4741	5000	3.5	ℓ — ℓ 2	340	5	ℓ — ℓ
05.7	S17	4798	4739	1000	3	ℓ — ℓ 4,5			
06.5	S09	4799	4741	600	2	ℓ — ℓ 2			
06.6	S22	4802	4739	1000	1.5	ℓ ⌝\ d 4,5			
06.7	N18	4794	4743	2000	2.5	ℓ — ℓ 2			
08.0	S15	4817	New	(300)	(2.5)	b / ℓ 1	(50)	(2)	b ∧ d
08.4	N14	4800	4746	400	2	ℓ — ℓ 2			
08.8	S12	4804	4749	400	1.5	ℓ \ d 2			
09.0	S20	4803	4749	800	1.5	ℓ \ d 2			
09.2	S22	4824	New	(1200)	(2)	b / ℓ 1			
09.9	N20	4805	4744	4000	4	ℓ — ℓ 2	570	13	ℓ ⌝\ ℓ
10.9	N14	4806	4748	2500	3.5	ℓ — ℓ 2	360	7	ℓ — ℓ
10.9	S21	4807	4762	400	1.5	ℓ \ d 2			
11.3	S09	4808	4750	2000	2	ℓ — ℓ 2			
12.0	N07	4809		(300)	(1.5)	ℓ \ d			
12.9	N32	4828	New	(400)	(2.5)	b ⌜ ℓ 1	(70)	(2)	b / ℓ
13.0	N07	4813	New	600	3	b / ℓ 1			
13.2	S15	4811	New	1000	2	ℓ / ℓ 1			
13.5	N18	4810	4756	1000	2	ℓ — ℓ 3	20	2	ℓ — ℓ
14.2	S13	4821	New	1400	2.5	ℓ — ℓ 1			
14.4	S30	4814	4755	700	2	ℓ — ℓ 3			
15.2	N21	4816	4756	2300	2.5	ℓ — ℓ 3			
15.5	S14	4815	4759	1100	2.5	ℓ — ℓ 5	100	2	b ⌜ ℓ
17.1	S15	4819	4765	7000	3	ℓ \ ℓ 5	450	9	ℓ \ ℓ
17.5	N22	4818	4764	7000	3	ℓ — ℓ 4	820	7	ℓ / ℓ
17.8	S25	4820	New	9000	3.5	ℓ — ℓ 1	530	7	ℓ — ℓ
17.9	N14	4822	New	1600	2.5	ℓ — ℓ 1			
17.9	S03	4827	New	800	3	b / ℓ 1	110	5	b ∧ d
19.8	N12	4825	4768	1500	1.5	ℓ — ℓ 5			
20.5	S01	4826	New	5000	3.5	ℓ — ℓ 1	1140	12	ℓ \ ℓ
22.2	S10	4829	4779	7000	3	ℓ — ℓ 2	1330	54	ℓ — ℓ
23.0	N29	4830	4769	1600	2	ℓ \ d 5			
23.2	N02	4836	New	600	2.5	b / ℓ 1			
23.5	N17	4831	New	1100	3.5	ℓ — ℓ 1	70	6	b ⌜ ℓ
24.0	S08	4832	4771	1600	1.5	ℓ \ ℓ 2	140	5	ℓ — ℓ
25.9	N07	4841	New	1000	2.5	b / ℓ 1	120	4	b ⌜ ℓ
26.1	S21	4834	4778	800	2	ℓ — ℓ 3	190	1	ℓ — ℓ
26.3	N19	4833	4780	3300	3	ℓ — ℓ 2	20	1	ℓ \ d
26.3	S08	4835	*	3700	2.5	ℓ — ℓ 2	60	4	b / ℓ
27.4	N09	4837	**	1200	1.5	ℓ — ℓ 3,2			
27.5	S30	4838	New	1400	1.5	ℓ \ d 1			
28.4	S12	4840	4784	1600	2.5	ℓ — ℓ 4			
29.0	N28	4839	4786	1500	2	ℓ — ℓ 2	40	2	ℓ \ d
29.2	S18	4843	New	1000	2.5	ℓ — ℓ 1	150	5	ℓ \ ℓ
31.4	N11	4844	4789	2600	2.5	ℓ — ℓ 4			

*4776 and 4781.
**4782 and, 4796.

CORONAL LINE EMISSION INDICES

OCTOBER 1958

CMP Oct. 1958	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	138	184	29	48	141	168	28	42	94	146	35	78	122	168	53	72
2	63	83	14	24	71	88	25	36	78	102	37	48	91	112	34	52
3	80	107	24	47	84	111	36	67	81	91	33	81	93	115	x	x
4	x	x	x	x	x	x	x	x	127	185	21	54	82	132	24	73
5	101	164	x	x	93	137	x	x	125	160	30	54	117	160	24	48
6	*118	225	35	49	214	372	40	77	x	x	x	x	x	x	x	x
7	55	85	47	68	146	164	24	38	92	152	15	18	114	151	40	48
8	132	236	43	88	177	246	27	64	82	108	27	54	140	199	41	60
9	90	102	x	x	94	124	45	80	74	96	23	54	159	260	65	114
10	107	167	49	90	146	207	43	54	78	192	16	18	141	236	35	66
11	95	160	x	x	114	156	x	x	96	183	28	54	88	115	74	118
12	x	x	x	x	x	x	x	x	139	206	x	x	111	168	37	60
13	123	155	47	114	79	96	43	66	96	176	45	79	110	144	42	84
14	108	150	40	102	128	156	42	60	118	175	60a	86a	110	173	41a	66a
15	163	244	x	x	171	212	x	x	117	164	27	65	116	172	27	48
16	* 88a	117a	62a	114a	*190a	255a	50a	90a	145	185	35	60	112	152	67	90
17	127	168	x	x	123	163	x	x	141	178	24	42	149	216	45	78
18	95	118	19	26	96	136	18	36	x	x	x	x	x	x	x	x
19	145	174	33	60	*117	160	24	48	x	x	x	x	x	x	x	x
20	x	x	x	x	x	x	x	x	*153	204	62	99	125	168	48	81
21	116	165	x	x	118	178	20	30	x	x	x	x	x	x	x	x
22	114	151	23	42	*148	280	41	60	x	x	x	x	x	x	x	x
23	131	153	40	50	91	164	32	84	87	172	x	x	91	112	x	x
24	101	132	30	52	95	127	34	54	129	170	32	60	127	176	46	84
25	140	238	43	90	129	176	54	90	126	172	x	x	91	108	x	x
26	*122	198	16	24	156	222	62	78	x	x	x	x	x	x	x	x
27	126	184	19	36	143	244	53	78	145	192	x	x	106	125	x	x
28	137a	164a	34a	55a	121a	171a	49a	78a	106	172	47	96	89	100	18	18
29	90	112	24	30	92	128	33	84	143	240	66	129	114	141	29	36
30	88	105	30	54	83	92	37	72	*219	390	42	84	206	252	46	63
31	113	125	x	x	107	169	26	43	*172	255	62	98	*175	240	63	114

x = no observations. a = index computed from low weight data. * = yellow line observed.

CORONAL LINE EMISSION INDICES

Additional Data January - July 1958

CMP 1958	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
4 Feb	116	181	33	66	x	x	31	42
5	159	275	34	54	183	278	35	60
9	105	152	17	30	107	200	33	45
22	70	96	26	30	126	160	40	60
23	57	64	19	27	108	137	51	84
24	41	48	27	36	57	65	28	36
25	73	101	25	36	57	75	25	29
6 Mar	x	x	-	-	x	x	x	x
7	74	123	38	72	118	144	28	45
22	70	80	39	61	99	124	50	84
26	127	168	x	x	104	165	x	x
30	102	120	35	62	107	144	44	100
3 Apr	182	240	98	175	209	320	x	x
5	260	390	64	99	213	304	56	108
7	x	x	62	166	x	x	42	58
10	x	x	49	72	x	x	14	24
12	140	181	36	63	59	74	48	122
13	x	x	99	123	x	x	53	125
14	x	x	94	180	x	x	59	169
17	105a	135a	16a	20a	64a	110a	30a	50a
18	144	178	37	65	82	107	12	15
25	127	150	35	57	192	306	30	64
26	157a	180a	38a	63a	201a	275a	x	x
4 May	230	285	39	79	130	196	36	57
6	154	202	76	165	77	96	15	36
7	145	189	84	129	74	86	20	32
10	x	x	93	175	x	x	36	54
11	x	x	45	86	67	82	40	72
12	x	x	42	72	x	x	44	105
16	95	137	32	57	99	119	23	36

CMP 1958	South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
21 Jan	149	179	34	39	274	325	74	150
22	191	308	40	54	311	465	99	184
26	164	252	53	87	94	111	31	42
8 Feb	135	156	23	51	96	152	44	72
9	128	192	20	24	111	168	45	96
10	86	125	x	x	120	142	x	x
11	98	111	15	20	129	154	20	32
20	120	136	71	111	64	81	40	50
21	135	174	34	60	62	69	15	21
8 Mar	98	157	35	51	116	164	53	72
12	83	134	x	x	189	216	x	x
16	73	100	25	34	148	199	30	48
20	157	224	x	x	200	232	x	x
22	104	130	24	30	152	216	48	81
24	x	x	25	36	x	x	41	65
27	x	x	37	69	x	x	x	x
29	134	200	28	61	99	110	15	15
30	x	x	37	54	x	x	36	27
31	x	x	33	45	x	x	21	27
3 Apr	77a	101a	48a	126a	62a	75a	56a	81a
4	147	207	58	140	171	203	45	76
11	75	116	15	28	146	171	46	71
12	145a	234a	x	x	181a	280a	x	x
20	109	134	51	108	153	218	26	50
22	131	173	38	57	112	144	37	54
23	138	192	49	72	126	163	29	50
26	107	124	63	126	94	124	51	85
27	88	115	39	60	83	134	71	115
28	x	x	38	82	x	x	50	79
2 May	131	172	54	100	168	240	36	61

*= yellow line observed.
a= index computed from low weight data.
x= no observations.
- = values below threshold.

Note: These are data from the Sacramento Peak observing station; they will serve to fill in gaps in the tables already published which were based on Climax data exclusively. All future tables will be based on data from both stations.

CORONAL LINE EMISSION INDICES

Additional Data January - July 1958

CMP 1958	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
20 May	x	x	44	84	x	x	38	84
22	x	x	85	137	x	x	51	81
26	x	x	44	68	x	x	25	41
29	114	132	x	x	104	148	x	x
7 Jun	122	202	34	57	47	57	18	28
8	80a	108a	19a	36a	67a	108a	36a	63a
12	102	110	55	108	208	272	53	102
16	x	x	42a	72a	x	x	35a	72a
17	100	145	98	126	124	172	52	84
20	131	188	48	84	63	74	30	42
21	x	x	48	58	x	x	27	65
25	182a	235a	98a	168a	138a	187a	42a	151a
29	218	254	x	x	141	153	x	x
30	249	288	88	151	150	192	46	72
1 Jul	149	173	121	172	74	120	36	51
5	115	145	x	x	97	134	x	x
9	170	190	57	79	119	148	21	54
10	123	139	62	105	111	143	25	61
12	77	92	x	x	115	176	x	x

CMP 1958	South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
6 May	68	119	28	84	148	200	55	108
8	x	x	15	25	x	x	59	93
12	x	x	48	77	116	148	29	40
13	x	x	x	x	88	136	x	x
15	128	190	x	x	81	100	x	x
24	65	82	20	37	98	158	17	37
25	69a	90a	x	x	124a	189a	x	x
29	116	152	38	78	159	228	50	62
2 Jun	x	x	20a	36a	x	x	47a	63a
3	71	116	11	24	174	204	82	114
6	51	64	21	24	132	180	37	48
7	x	x	15	22	x	x	42	65
11	145a	187a	x	x	154a	195a	62a	86a
15	121	186	39a	90a	94	130	47a	86a
16	137	186	40	89	134	192	70	151
17	67	96	24	43	84	115	17	29
21	59	87	x	x	105	163	x	x
25	125	180	56	115	172	199	30	57
26	125	189	46	116	176	310	24	47
28	107	156	x	x	149	176	x	x

SOLAR FLARES

OCTOBER 1958

OBSERVATORY	DATE OCT 1958	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLACE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
CAPRI-S	01	0722 E	0732 D		N23	E67	4794	10 D	1	1	0724	1.00	2.40			
UCCLE	01	1049 E			S20	E62	4798		1	1						
POTSDAM	01	1214 E	1322 D	1222	S09	E54	4792	68 D	2							
MCMATH	01	1217	1255	1223	S09	E52	4792	38	2	1	1223	3.57	5.89			
ONDREJOV	01	1220 E	1243		S09	E52	4792	23 D	2	3	1221			3.10		S-SWF
MCMATH	01	1303	1402	1327	S09	E55	4792	59	1	1	1327	2.92	4.82			
ONDREJOV	01	1307 E	1340		S09	E52	4792	33 D	1&	2	1308			2.50		
MCMATH	01	1617	1637	1626	N02	W23	4796	20	1	1	1626	1.94	2.10			S-SWF
CLIMAX	01	1620	1640	1625	S10	E16	4784	20	1		1625	2.20				
DUNSINK	02	1013	1042	1027	S14	W33	4781	28	1					2.70		
MCMATH	02	1204 E	1310		S10	W32	4781	66 D	1	1	1224	2.43	2.97			
ZURICH	02	1252 E	1303 D		S10	W31	4781	11 D	1	2	1252		2.00			
CLIMAX	02	1803	1837	1808	N20	E90	4805	34	1		1808	2.80				
CLIMAX	02	1806	1921	1832	N18	E53	4794	75	2		1832	8.00				
USNRL	02	1809	1916 D		N20	E50	4794	67 D	2	1	1840	3.50	5.50		100	Slow S-SWF
MCMATH	02	1809	2000 D	1828	N19	E52	4794	111 D	2&	1	1828	5.20	8.11			
HAWAII	02	1810	1858	1820	N14	E51	4794	48	1&	2	1820	3.50	5.30			
CLIMAX	02	2143	2201	2250	S08	W37	4781	18	1		2250	2.10				
ONDREJOV	03	0835 E	0852 D		S08	W54	4781	17 D	1&	1	0842			2.20		
UCCLE	03	0839	0903	0842	S06	W55	4781	24	1	1	0842	3.00	4.80			
LOCARNO	03	1140	1200 D		N02	W49	4782	20 D	1	2	1200		2.00			
ONDREJOV	03	1147 E	1158		N02	W49	4782	11 D	1	3	1149			2.20		
MCMATH	03	1352	1404		N02	W52	4782	12	1	1	1402	1.95	3.22			
MCMATH	03	1524	1640 D		N01	W54	4782	76 D	1	2	1600	1.63	2.73			
SAC PEAK	03	1525	1615	1542	N00	W53	4782	50 D	1	2		2.90			16	
CAPRI-S	03	1527	1615 D		N03	W50	4782	47 D	1	3	1535	2.00	3.20			Slow S-SWF
ONDREJOV	03	1530 E	1539 D		N02	W51	4782	9 D	1&	2	1534			2.30		
WENDEL	03	1541 E	1605 D		N03	W50	4782	24 D	1				3.00			
MCMATH	03	1532	1620	1544	S05	W55	4781	48	1	2	1544	1.30	2.26			
MCMATH	03	1811	1855	1820	S01	W56	4781	44	1	2	1820					S-SWF
CLIMAX	03	1813	1834	1820	N03	W53	4782	21	1		1820	2.20				
MCMATH	03	1917	1951 D		S01	W56	4781	34 D	1	2	1945	1.79	3.04			
CLIMAX	03	1926	2011	1941	N02	W56	4782	45	1		1941	2.50				Slow S-SWF
CLIMAX	03	2312	2419	2333	N37	W33	4786	67	2		2333	7.40				
HAWAII	03	2326	0014	2328	N40	W28	4786	48	1&	2	2328	4.20	5.60			
NIZAMIAH	04	0349 E	0354 D		S08	E16	4792	5 D	1	3	0349	2.12	2.28	1.40		
ONDREJOV	04	1313 E	1321 D		N18	W74	4780	8 D	1	1	1320			2.30		
MCMATH	04	1334	1357	1344	N01	W66	4796	23	1	2	1344	2.11	5.00			
CLIMAX	04	1357	1424	1359	N18	E76	4805	27	1		1359	2.50				
MCMATH	04	1357	1430	1401	N20	E75	4805	33	1&	2	1401	2.11	6.16			
OTTAWA	04	1358	1422 D	1359	N23	E71	4805	24 D	1	2	1359	1.28	3.83			S-SWF
CAPRI-S	04	1358 E	1432		N21	E70	4805	34 D	2	1	1405	1.80	5.30			
WENDEL	04	1418 E	1435		N23	E69	4805	17 D	1&				7.00			
CAPRI-S	04	1454 E	1525 D		N30	W40	4786	31 D	1	1	1515	1.80	2.70			
MCMATH	04	1500 E	1521 D		N28	W40	4786	21 D	1	2	1506	1.95	2.69			
MCMATH	04	1507	1522	1511	N20	W85	4780	18	1	1	1511	.89	4.91			
MCMATH	04	1618	1636	1625	S12	W43	4784	18	1	1	1625	.90	1.79			
MCMATH	04	1754	1833	1804	N20	E70	4805	39	1&	1	1804	1.62	4.74			Slow S-SWF
MCMATH	04	1919	1937	1927	N01	W71	4796	18	1	1	1927	.97	2.84			Slow S-SWF
CAPRI-S	05	0826 E	0912 D		N21	W90	4780	46 D	1	2	0835	1.50	2.00			

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CAPRI-S	05	1001	1025 D		N19	E60	4805	24 D	1	2	1006	1.70	3.40			
UCCLE	05	1206	1222	1210	S08	W80	4781	16	1&	1	1210	2.10	5.00			Slow S-SWF
MCMATH	05	1210 E	1225		S11	W80	4781	15 D	1	1	1212	.57	2.09			
USNRL	05	1503	1520	1510	S05	W11	4792	17	1	3	1510	1.21	1.26		109	
CLIMAX	05	1507 E	1517		S04	W11	4792	10 D	1		1507	3.00				
HUANCAYO	06	1630 E	1640 D	1630	N15	E41	4805	10 D	1	1	1630	1.70	2.20	2.70		
CAPRI-S	07	0713 E	0732 D		S05	W35	4792	19 D	1	3	0718	2.00	2.40			
CAPRI-S	07	1510 E	1527 D		S06	W90	4784	17 D	1&	3	1517	3.00				Slow S-SWF
CLIMAX	07	1512	1527	1517	S07	W90	4784	15	1		1517	2.20				
MT WILSON	07	1515	1523		S16	W55	4791	8	1							
CLIMAX	07	1641	1713	1645	S04	W39	4792	32	1		1645	2.50				G-SWF
HAWAII	07	1818	1838	1824	N05	E42	4806	20	1	1	1824	2.90	3.80			
MT WILSON	07	1819	1833		N10	E37	4806	14	1							
USNRL	07	1819	1842	1830	N11	E42	4806	23	1	1	1830	.79	1.07	1.50	101	
HUANCAYO	07	1950	2034 D	2014	N18	E33	4805	44 D	1&	2	2014	8.70	10.60	2.30		
CLIMAX	07	1952 E	2137		N19	E28	4805	105 D	2		2042	7.40				
USNRL	07	1955	2103 D	2015	N20	E32	4805	68 D	1	2	2015	2.71	3.32	1.00	84	
SAC PEAK	07	1956	2015 D	2015 D	N21	E32	4805	19 D	2	2		6.40			16	
MCMATH	07	2007 E	2055 D		N20	E32	4805	48 D	2	1	2029	3.58	4.29			G-SWF
HAWAII	08	0124 E	0138 D		S02	W46	4792	14 D	1	2	0124	3.90	5.90			
MITAKA	08	0129 E	0143		S05	W45	4792	14 D	1	1	0132	.89	1.21	2.10	140	
WENDEL	08	1014 E	1030		N12	E66	4813	16 D	1				4.00			
WENDEL	08	1322	1337		S12	E24	4808	15	1				3.00			
MEUDON	08	1324	1352		N13	E27	4806	28	1				2.00			
WENDEL	08	1351	1413		N07	W46	4789	22	1&				5.00			
MITAKA	09	0619 E	0636		N20	E57	4810	17 D	1	1	0626	1.34	2.61	1.19	113	
ATHENS	09	0834 E	0841		N12	E15	4806	7 D	1	3		.70	.70			
ONDREJOV	09	0836 E	0841		N14	E17	4806	5 D	1	3	0838			2.30		
LOCARNO	09	0920	0935		N07	W57	4789	15	1	3	0930		2.00			
ONDREJOV	09	1157	1214		N10	W60	4789	17	1	3	1201			2.30		S-SWF
WENDEL	09	1158	1215		N07	W59	4789	17	1				4.00			
WENDEL	10	1340	1352		S24	E78	4820	12	1				3.00			
ONDREJOV	10	1343 E	1349		S25	E80	4820	6 D	1	3	1344			5.50		
SAC PEAK	10	1412	1430	1417	N13	W85	4789	18 D	1	2		3.50			18	
USNRL	10	1413	1435	1417	S07	W80	4792	22	1	3	1417	.90	4.55		72	G-SWF
CLIMAX	10	1416 E	1426		S08	W89	4792	10 D	1		1419	2.60				
WENDEL	10	1416	1432		N09	W82	4789	16	1				4.00			
SAC PEAK	10	1452	1530	1505	S32	E90	4820	38 D	1	2		2.30			18	
CAPRI-S	11	1423	1525 D		N10	W90	4789	62 D	1	3	1430	2.00				Slow S-SWF
MT WILSON	11	2236	2252		S29	E70	4820	16	1							S-SWF
MITAKA	12	0110 E	0120 D		S16	E70	4819	10 D	1	1	0112	1.84	4.60	1.79		
TASHKENT	12	0632	0718	0637	N16	W36	4800	46	2							Slow S-SWF
CAPRI-S	12	1044 E	1105 D		N21	W31	4805	21 D	1	3	1052	1.60	2.10			
MCMATH	12	1459	1511	1501	S30	E70	4820	12	1	2	1501	.73	2.56			S-SWF
MT WILSON	12	1500	1506		S28	E56	4820	6	1							
MT WILSON	12	1752	1804		S28	E56	4820	12	1							

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MT WILSON	12	1829	1836		S16	E48	4815	7	1							
SAC PEAK	12	2125	2152	2132	N16	W45	4805	27 D	1	1		3.60			24	Slow S-SWF
MITAKA	13	0046 E	0059		S25	E59	4820	13 D	1&	1	0049	4.00	9.60	2.04		Slow S-SWF
USNRL	13	1347	1454	1356	S02	E90	4826	7	1	2	1356	.90		2.00	69	Slow S-SWF
MCMATH	13	1601	1702 D		S02	E90	4826	61 D	2	1						
USNRL	13	1612	1719	1640	S02	E90	4826	67	1	2	1640	.90		2.00	67	S-SWF
CLIMAX	13	1617	1645	1642	S04	E90	4826	28	1		1642	2.90				
USNRL	13	1912	2000 D	1924	S04	E90	4826	48 D	2&	1	1924	3.84		2.00	95	
CLIMAX	13	1915	1928	1923	S04	E90	4826	13	1		1923	3.10				S-SWF
HAWAII	13	1918	1932	1924	S13	E90	4826	14	1	3	1924	2.00				
MT WILSON	13	1919	1934		S05	E90	4826	15	1							
MITAKA	14	0312	0323		S02	E90	4826	11	1	1	0312	.30		7.25		
MITAKA	14	0335	0340		S02	E90	4826	5	1	1	0340	1.84		5.58		S-SWF
MITAKA	14	0344	0458		S01	E90	4826	14	1	1	0344	1.34		8.34		
SYDNEY	14	0505	0520	0510	N09	W58	4806	15	2							Slow S-SWF
MITAKA	14	0510	0513		S02	E89	4826	3	1	1	0510	1.84		6.24		
NIZAMIAH	14	0540 E	0542 D		S06	E79	4826	2 D	2	1	0540	1.52	7.66	1.90		
SIMEIZ	14	0659 E			S06	E87	4826		2							
UCCLE	14	0929 E	1108 D		S03	E85	4826	99 D	1&	3		2.20	4.50			S-SWF
CAPRI-S	14	1056 E	1101 D		N05	W68	4806	5 D	1	3	1056	.80	2.40			
UCCLE	14	1133 E	1145	1133	S03	E85	4826	12 D	1	2						S-SWF
MCMATH	14	1302 E	2115 D		S02	E80	4826	493 D	□	1		2.11	8.44			
CLIMAX	14	2037	2058 D	2044	S27	E33	4820	21 D	1		2044	3.60				S-SWF
MCMATH	14	2041 E	2115 D		S26	E34	4820	34 D	1	1	2045	2.60	3.64			
HAWAII	14	2132	2140	2134	S13	E80	4826	8	1&	2	2134	3.70				S-SWF
CLIMAX	14	2133 E	2228 D		S04	E85	4826	55 D	1		2134	2.50				
KANZELHOHE	15	0758 E	0905		S01	E65	4826	67 D	2							
UCCLE	15	0921	0948		S05	E65	4826	27	1	2						Slow S-SWF
KANZELHOHE	15	1020 E	1107		S23	E24	4820	47 D	2&							
KANZELHOHE	15	*1020 E	1107		S26	E36	4820	47 D	2							
UCCLE	15	1023	1110	1034	S28	E24	4820	47	2	2	1034	7.50				
MOSCOW	15	1024 E	1103		S27	E28	4820	39 D	2							
ARCETRI	15	1027 E			S29	E25	4820		2	3	1027	6.40	8.30			S-SWF
CAPRI-S	15	1027 E	1123 D		S27	E26	4820	56 D	2&	2	1151	5.20	6.80			
NIZAMIAH	15	1028 E	1050 D	1031	S28	E24	4820	22 D	1&	1	1031	3.65	4.85	2.60		
LOCARNO	15	1030 E	1140		S27	E22	4820	10 D	2&	4	1100		11.00			
LOCARNO	15	1040 E	1210 D		S02	E60	4826	90 D	2	4	1200		7.00			
LOCARNO	15	1107	1130		S12	E90	4829	23		4	1120					
USNRL	15	1207 E	1324		S03	E64	4826	77 D	2	1	1208	2.48	5.73	2.00	67	
ARCETRI	15	1440 E			S05	E63	4826		2	3	1440	2.40	5.90			
USNRL	15	1449	1505	1452	S03	E64	4826	16	1	2	1452	.90	2.18		92	S-SWF
MCMATH	15	1449	1507	1458	S02	E68	4826	18	1&	2	1458	2.11	5.00			
OTTAWA	15	1449	1508		S02	E64	4826	19	1&	3	1457	1.80	4.24			
MT WILSON	15	1536 E			N14	W70	4806		1							
USNRL	15	1540	1635	1548	N14	W63	4806	55	1	2	1548	1.69	3.58	2.00	82	
MCMATH	15	1542	1622	1551	N13	W67	4806	40	1	2	1551	2.11	4.85			
CLIMAX	15	1543	1559	1550	N15	W64	4806	16	1		1550	2.10				
CAPRI-S	15	1544 E	1556 D		N06	W63	4806	12 D	2	2	1544	3.00	6.90			
HUANCAYO	15	1545	1608	1547	N12	W60	4806	23	1	2	1547	1.70	3.30	3.00		
USNRL	15	1605	1622	1612	S02	E67	4826	17	1	3	1612	.79	1.92		109	

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MCMATH	15	1605	1626	1613	S02	E68	4826	21	1	2	1613	2.76	6.54			
HUANCAYO	15	1608	1625	1613	S02	E67	4826	17	2	2	1613	2.40	6.00	6.20		
CLIMAX	15	1609	1620	1612	S02	E70	4826	11	1		1612	2.10				
MT WILSON	15	1702	1947	1719	S04	E62	4826	165	1							
MCMATH	15	1707	1750	1722	S02	E68	4826	43	1	2	1722	1.62	3.84			Slow S-SWF
CLIMAX	15	1710	1731	1720	S04	E70	4826	21	1		1720	2.20				
MCMATH	15	2045	2112 D		S02	E68	4826	27 D	1	1	2058	1.14	2.69			
CLIMAX	15	2113	2141	2119	S10	E90	4829	28	1		2119	2.80				
SAC PEAK	15	2115	2135	2120	S11	E90	4829	20 D	1&	2		4.10			35	S-SWF
HAWAII	15	2120 E	2132 D		S20	E90	4829	12 D	2	1	2130	5.70				
UCCLE	16	0907	0918	0911	S03	E57	4826	11	1&	2	0911	3.40	4.10			
UCCLE	16	0940	0955	0945	S03	E58	4826	15	1	2	0945	2.20	2.60			Slow S-SWF
UCCLE	16	1037	1108	1048	S18	E08	4819	31	1	2	1048	2.20				
UCCLE	16	1106	1116	1108	S04	E55	4826	10	1	2	1108	2.20	2.60			
USNRL	16	1454	1520	1457	S04	E52	4826	26	1	2	1457	.90	1.50	2.00	111	G-SWF
USNRL	16	1605	1642	1605	S10	E80	4829	37	1	2	1605	.90	3.72	2.00	61	
MT WILSON	16	1657	1702		S15	W06	4815	5	1							
SAC PEAK	16	1705	1755	1721	N22	E21	4818	50 D	1	2		2.50			17	
MCMATH	16	1706	1755		N20	E22	4818	49	1	1	1725	2.28	2.55			Slow S-SWF
USNRL	16	1709	1811	1716	N22	E21	4818	62	1	2	1716	1.02	1.11		111	
CLIMAX	16	1711 E	2134		N22	E21	4818	263 D	1		2104	4.20				
SAC PEAK	16	1902	2015	1925	N21	E20	4818	73 D	1	2		2.80			15	G-SWF
MT WILSON	16	2019	2025		S20	E05	4820	6	1							
USNRL	17	1450	1521	1459	S04	E37	4826	31	1&	2	1459	1.70	2.14		214	
SAC PEAK	17	1635	1900	1652	N17	E13	4818	145 D	2-	2		5.40			22	
USNRL	17	1704	1906		N21	E08	4818	122	1&	2	1720	2.04	2.12	2.00	144	
CLIMAX	17	1706	1835	1734	N20	E10	4818	89	1		1734	3.00				Slow S-SWF
MCMATH	17	1706	1904	1729	N20	E09	4818	118	1	1	1729	2.19	2.30			
HAWAII	18	0134 E	0152 D		N17	E10	4822	18 D	2	1	0134	6.20	6.40			Slow S-SWF
LOCARNO	18	1450 E	1515		S03	E22	4826	25 D	1&	2	1500		3.00			
MITAKA	19	0303 E	0313		S16	W33	4819	10 D	1	1	0303	1.78	2.19	2.23	102	S-SWF
MITAKA	19	0412 E	0423	0418	S16	W34	4819	11 D	1	1	0423	.62	.78	1.86	115	
MITAKA	19	0553	0623	0558	N18	W14	4818	30	1	1	0558	3.83	3.98	1.96	131	
MEUDON	19	0632 E	0710		S27	W20	4820	38 D	1							
MEUDON	19	0710	0800	0724	S20	W37	4819	50	2&				24.00			
SIMEIZ	19	0723	0750	0724	S16	W39	4819	27	2							S-SWF
ONDREJOV	19	0736 E	0756		S16	W33	4819	20 D	1&	3	0738			5.40		
MEUDON	19	1003	1235		S27	W22	4820	152	1				3.00			
MEUDON	19	1037	1119	1045	N12	W10	4818	42	1&				8.00			
CAPRI-S	19	1043 E	1119 D		N17	W08	4818	27 D	1	2	1100	4.00	4.20			
ONDREJOV	19	1044 E	1102		N17	W09	4818	18 D	1&	3	1044			2.30		
LOCARNO	19	1045 E	1110 D		N13	W10	4818	25 D	2	2	1100		5.00			
MCMATH	19	1309	1325	1318	N09	E85	4841	16	1	1	1318	.73	4.21			S-SWF
MEUDON	19	1440	1503	1448	S20	W40	4819	23	1				4.00			
LOCARNO	19	1440	1506		S17	W42	4819	26	1	2	1500		1.00			
OTTAWA	19	1442	1501	1449	S18	W42	4819	19	1	2	1449	1.62	2.46			
MT WILSON	19	1758	1822		N25	W31	4818	24	1							
MT WILSON	19	*1758	1822		N20	W22	4818	24	1							
CLIMAX	19	1806 E	1818		N24	W28	4818	12 D	1		1809	2.70				

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OBSERVATORY	DATE OCT 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	APPROX. MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
CAPRI-S	20	1043 E	1135 D		N17	E63	4833	52 D	1	3	1108	2.00	4.60			
UCCLE	20	1106 E	1126	1108	N18	E67	4833	10	1	2						S-SWF
KANZELHOHE	20	1111 E	1123		N18	E65	4833	12 D	2&							
USNRL	20	1552	1625	1605	S25	W40	4820	33	1&	2	1605	2.14	3.38	2.00	100	
MCMATH	20	1553	1623	1603	S24	W42	4820	30	1	2	1603	.97	1.52			
MCMATH	20	1645	1725	1703	N18	E65	4833	40	1	2	1703	1.54	3.39			
OTTAWA	20	1645	1732 D	1649	N19	E61	4833	47 D	1&	3	1703	1.39	2.91			
USNRL	20	1645	1737	1649	N19	E63	4833	52	1	2	1649	1.13	2.59		81	
USNRL	20	1852	1911	1856	S08	W03	4826	19	1	2	1856	.90	.92		110	
MCMATH	20	1912	1930	1916	S17	W60	4819	18	1&	2	1916	1.79	3.93			
SAC PEAK	20	*1912	1930	1915	S16	W60	4819	18 D	1	2		2.30			17	S-SWF
USNRL	20	1913	1929	1916	S17	W60	4819	16	1&	3	1916	1.36	2.96		151	
CLIMAX	20	2033 E	2105 D		N18	E63	4833	32 D	1		2034	2.10				
CAPRI-S	21	1124 E	1222 D		N16	W25	4825	58 D	1	3	1200	3.00	3.60			
CAPRI-S	21	1224	1258		N22	W42	4818	34	1	3	1236	1.60	2.50			
OTTAWA	21	1233 E	1258	1238	N22	W46	4818	25 D	1&	3	1238	1.97	2.97			
ONDREJOV	21	1238 E	1247		N24	W49	4818	9 D	1&	3	1241			4.70		
USNRL	21	1407	1419 D		S10	E79	4835	12 D	1	1	1411	.56	2.84		87	
SAC PEAK	21	1416	1500	1425	S04	W16	4826	44 D	2	2		6.40			17	
OTTAWA	21	1416	1511 D		S07	W14	4826	55 D	2	4	1425	6.26	6.64			Slow S-SWF
USNRL	21	1418 E	1442 D		S06	W15	4826	24 D	1&	1	1419	2.82	3.00		138	
MCMATH	21	1430 E	1548 D		S04	W17	4826	78 D	1&	1	1433	3.90	4.13			
SAC PEAK	21	1540	1630	1557	N19	W46	4818	50 D	1	2		3.90			18	G-SWF
MT WILSON	21	1541	1557		N20	W46	4818	16	1&							
MT WILSON	21	1931	1938		N09	E08	4825	7	1							
HUANCAYO	21	1950		1952	S08	W03	4829		1	1	1952	3.90	4.00	5.60		
CLIMAX	21	1950	2031 D	1954	S08	W03	4829	41 D	2		1954	8.00				
SAC PEAK	21	1950	2200	1955	S07	W04	4829	130 D	2	2		8.60			24	S-SWF
MT WILSON	21	1951	2036		S08	W02	4829	45	2							
HUANCAYO	21	1952			S05	W09	4829		2	1	2017	7.80	8.00			
MCMATH	21	2054 E	2102 D		S07	W15	4826	8 D	1	1	2055	2.60	2.73			
CLIMAX	21	2321	2345 D	2333	S03	W22	4826	24 D	2		2333	6.00				
MT WILSON	21	2324			S04	W20	4826		2							S-SWF
HAWAII	21	2350 E	0006 D		S02	W23	4826	16 D	2	1	0005	6.30	6.90			
TASHKENT	22	0655	0755		S03	W14	4829	60	2							Slow S-SWF
ARCETRI	22	0758 E	0806 D		S06	W25	4826	8 D	1	3						
LOCARNO	22	0915 E	0935		S03	W30	4826	20 D	1	2	0930		1.00			
LOCARNO	22	0925	0945		S04	W65	4827	20	1	2	0930		2.00			
ONDREJOV	22	1353 E	1400 D		N20	W65	4818	7 D	1	3	1354			4.50		
LOCARNO	22	1410	1445		S03	W27	4826	35	1&	2	1430		4.00			
OTTAWA	22	1414	1517 D	1430	S03	W31	4826	63 D	1&	3	1430	2.32	2.75			Slow S-SWF
ONDREJOV	22	1415 E	1510 D		S03	W31	4826	55 D	1&	2	1427			3.10		
CAPRI-S	22	1417	1548		S04	W27	4826	31	2&	3	1443	5.00	5.60			
ZURICH	22	1426 E	1445		S34	E65	4838	19 D	1	2	1426		5.00			
ZURICH	22	1426 E	1515 D		S02	W31	4826	49 D	2	2	1428		9.00			
SAC PEAK	22	1438 E	1530	1439 U	S03	W32	4826	52 D	1	2		3.90			14	
ZURICH	22	1442	1510		S06	W13	4829	18	1	2	1447		4.00			
ONDREJOV	22	1445	1505		S06	W13	4829	20	1	3	1452			2.80		
CAPRI-S	22	1445	1510		S06	W10	4829	25	2	3	1450	4.50	4.50			
OTTAWA	22	1446	1509 D		S06	W13	4829	23 D	1	2	1449	1.97	2.08			
CLIMAX	22	1447 E	1500	1449	S06	W14	4829	13 D	1		1449	2.10				

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LOCARNO	22	1450	1510		S06	W12	4829	20	1	2	1500		2.00			
ONDREJOV	23	0800 E	0811		N25	W62	4818	11 D	1	3	0801			2.50		
LOCARNO	23	0900 E	0925		S09	E13	4832	25 D	1	2	0900		1.00			
LOCARNO	23	0918	0933		S16	W12	4829	25	1	2	0930		2.00			
WENDEL	23	1018	1106 D		S10	E15	4832	48 D	1b				7.00			
WENDEL	23	1149 E	1220		N22	W73	4818	31 D	1b				8.00			Slow S-SWF
ZURICH	23	1153 E	1210		N24	W72	4818	17 D	1b	2	1153		5.00			
WENDEL	23	1209	1224		S12	W16	4829	15	1				3.00			
WENDEL	23	1219 E	1240 D		S10	E13	4832	21 D	1				3.00			S-SWF
MCMATH	23	1655 E	1803		S31	E48	4838	68 D	1	1	1737	1.06	2.11			S-SWF
CLIMAX	23	1725	1743	1728	S33	E51	4838	18	1		1728	2.10				
CLIMAX	23	1837	1901		S05	W31	4826	24	1		1840	4.50				
MCMATH	23	1845 E	1916		S05	W35	4826	31 D	1	1	1850	2.76	3.37			Slow S-SWF
SAC PEAK	23	1900 E	1925 D	1900 E	S03	W39	4826	25 D	1	1		2.30			15	
ARCETRI	24	0855 E	0905 D		S33	E40	4838	10 D	1	3	0855	1.50	2.60			
ZURICH	24	0905	0922		S32	E37	4838	17	1	2	0905		2.00			
CAPRI-S	24	0919 E	1002 D		S03	W55	4826	43 D	1	1	0933	1.50	3.50			
LOCARNO	24	0921	1005		S01	W56	4826	44	1b	3	0930		4.00			
ZURICH	24	0925	0947 D		S02	W54	4826	22 D	2	2	0925		8.00			
WENDEL	24	1004 E	1028 D		S04	W58	4826	24 D	1				3.00			
WENDEL	24	1013	1030 D		S13	W26	4829	17 D	1				3.00			
LOCARNO	24	1030	1145		S10	W32	4829	15	1	2	1040		2.00			
WENDEL	24	1033	1057		S04	W56	4826	24	1b				8.00			
MEUDON	24	1034	1101		S05	W57	4826	27	1				5.00			
CAPRI-S	24	1037 E	1103 D		S07	W53	4826	26 D	1	1	1044	1.50	3.50			
MEUDON	24	1126	1155		S30	E37	4838	29	1				2.00			
ARCETRI	24	1131 E	1145 D		S33	E40	4838	14 D	1b	3						
WENDEL	24	1132	1201	1134	S30	E38	4838	29	1				4.00			
LOCARNO	24	1135	1150		S30	E38	4838	15	1	2	1140		2.00			
LOCARNO	24	1210	1300		S11	W29	4829	50	1b	2	1230		3.00			
MEUDON	24	1223	1300		S12	W30	4829	37	1				3.00			
WENDEL	24	1223 E	1302 D		S12	W29	4829	39 D	1b				7.00			
USNRL	24	1226	1236	1229	S12	W30	4829	12	1	2	1229	.79	.97		111	
WENDEL	24	1324	1346 D		S11	W31	4829	22 D	1b				7.00			
LOCARNO	24	1330	1355		S11	W29	4829	25	1	2	1340		2.00			
CAPRI-S	24	1332 E	1343 D		S10	W19	4829	11 D	1	1	1336	2.00	2.30			
LOCARNO	24	1410	1528 D	1455	S01	W51	4826	78 D	2b	2	1500		15.00			
WENDEL	24	1432	1533 D	1402	S04	W57	4826	61 D	3				18.00			
SAC PEAK	24	1435	1800 U	1458	S03	W57	4826	205 D	2	1		6.20			34	
MEUDON	24	1436	1545 D		S05	W60	4826	69 D	2b				35.00			Slow S-SWF
USNRL	24	1438	1801	1456	S05	W58	4826	203	2b	2	1456	4.63	8.84	2.00	120	
CAPRI-S	24	1441	1558 D		S04	W56	4826	17 D	3	3	1505	7.00	13.00			
CLIMAX	24	1444	1607	1503	S03	W60	4826	83	2		1503	6.60				
HUANCAYO	24	1546 E	1703 D	1546	S07	W52	4826	77 D	1b	2	1546	3.20	5.20	3.40		
WENDEL	25	0840 E	1000		N21	W88	4818	80 D	1b				8.00			
WENDEL	25	0856	0910		S13	W40	4829	14	1				3.00			
LOCARNO	25	1025	1050		S07	W15	4832	25	1	2	1030		3.00			
WENDEL	25	1032	1102	1037	S07	W14	4832	30	1b				6.00			
WENDEL	25	1239 E	1342		N21	W89	4818	63 D	1				4.00			
LOCARNO	25	1250	1320		N24	W86	4818	30	1	2	1300		1.50			

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WENDEL	26	0948 E	1003 D		S14	E58	4843	15 D	1				5.00			
WENDEL	26	1026 E	1050 D		S14	E58	4843	24 D	1				4.00			
WENDEL	26	1113 E	1136 D		S14	E56	4843	23 D	1				4.00			
CAPRI-S	26	1116	1134 D		S13	E58	4847	18 D	1	3	1123	2.00	3.70			
ARCETRI	26	1116	1135 D		S14	E61	4847	19 D	1	3						
WENDEL	26	1303 E	1322 D		S14	E55	4847	19 D	1&				6.00			
MITAKA	27	0142	0154	0145	S10	W66	4829	12	1	2	0146	.71	1.70	3.76	137	
MITAKA	27	0401	0408		S15	E44	4847	7	1	2	0401	.89	1.36	1.63	85	
MITAKA	27	0419	0425		S10	W71	4829	6	1	2	0419	.59	1.42	1.74	115	
WENDEL	27	0922	0934 D		S13	E43	4847	12 D	1				3.00			
WENDEL	27	1005	1029	1008	S05	W12	4835	24	2&				15.00			
WENDEL	27	1002	1016 D		S10	W70	4829	14 D	1				4.00			
ARCETRI	27	1025 E	1029 D		S11	W70	4829	4 D	1	3						
WENDEL	27	1025	1042 D		S10	W70	4829	17 D	1				5.00			
WENDEL	27	1118 E	1131 D		S09	W73	4829	13 D	1				4.00			
WENDEL	27	1340 E	1358 D		S07	W90	4826	18 D	1&				12.00			
WENDEL	27	1359 E	1405 D		N15	W29	4841	6 D	1				3.00			
WENDEL	27	1440	1452		S14	W69	4829	12	1				3.00			
USNRL	27	1959	2046 D	2007	S18	E90	4849	47 D	1	1	2007	2.26		2.00	55	
MT WILSON	27	2222 E	2258		N05	W31	4841	36 D	1							
LOCARNO	28	1010	1100		N08	W38	4841	50	1&	2	1030		4.00			
MEUDON	28	1015	1038		N08	W40	4841	23	1				3.00			
WENDEL	28	1020	1104 D	1030	N09	W39	4841	44 D	2				9.00			
CAPRI-S	28	1021	1102 D		N10	W37	4841	41 D	1	3	1040	2.00	2.60			
WENDEL	28	1112 E	1128 D		S04	W25	4835	16 D	1				4.00			
WENDEL	28	1146	1152 D		S11	W90	4829	6 D	1				3.00			
WENDEL	28	1212	1225 D		S13	E39	4847	13 D	1				3.00			
MCMATH	28	1505	1602	1514	N20	W40	4833	57	2	1	1514	3.89	5.10			
WENDEL	28	1507 E	1600 D		N17	W34	4833	53 D	3				22.00			
WENDEL	28	*1507 E	1600 D		N07	W41	4841	53 D	2				11.00			
CLIMAX	28	1509	1539	1519	N08	W41	4841	30	1		1519	2.40				
CLIMAX	28	*1509	1539	1519	N19	W39	4833	30	1		1519	4.20				
MT WILSON	28	*1509	1539		N18	W34	4833	30	1							
USNRL	28	1511 E	1617	1520	N10	W42	4841	66 D	1&	2	1520	3.50	4.76		122	
MT WILSON	28	1514	1539		N06	W46	4841	25	1							
MEUDON	28	1515 E	1530		N20	W40	4833	15 D	2				15.00			
MEUDON	28	*1515 E	1530 D		N12	W40	4833	15 D	1				3.00			
SAC PEAK	28	1518 E	1617 E	1519 U	N15	W40	4833	59 D	2	2		9.00			25	
WENDEL	28	1551	1600 D		S17	E10	4843	9 D	1				3.00			
MCMATH	28	1853	1915	1900	N32	E06	4839	22	1	1	1900	2.60	2.91			
USNRL	28	1857 E	1908 D		N37	E07	4839	11 D	1	1	1859	1.68	1.90		125	
MT WILSON	28	1857	1912		N30	E07	4839	15	1							
MITAKA	29	0123 E	0126		N00	W85	4836	3 D	1	1	0123	.71		2.06		
MEUDON	29	0703	0755	0710	N10	W50	4841	52	1&				10.00			
ATHENS	29	0712 E	0758		N07	W50	4841	46 D	2&	2		7.00	10.40			
LOCARNO	29	0720 E	0820		N06	W47	4841	60 D	2	2	0830		6.00			
WENDEL	29	0725 E	0820 D		N10	W49	4841	55 D	2&				15.00			
WENDEL	29	0730 E	0747 D		N12	E73	4851	17 D	1				4.00			
WENDEL	29	0856	0942 D		S13	E20	4847	46 D	1&				7.00			
WENDEL	29	0906 E	0920 D		N07	W52	4841	14 D	1				4.00			

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WENDEL	29	0925	0938 D		N12	E90	4854	13 D	1&				6.00			
WENDEL	29	0958	1010 D		S14	E16	4847	12 D	1&				5.00			
UCCLE	29	1002	1010		S15	E18	4847	8	1	2		2.20				
WENDEL	29	0958 E	1030 D		N07	W52	4841	32 D	1&				5.00			
UCCLE	29	1002	1021		N07	W53	4841	19	1	2		2.20				
WENDEL	29	1202	1231 D		N07	W53	4841	29 D	1				4.00			
ONDREJOV	29	1310	1317	1311	N07	E74	4851	7	1	3	1311			2.20		
WENDEL	29	1405	1435		N07	W51	4841	30	1&				6.00			
MCMATH	29	1555	1635	1607	N05	W57	4841	40	1	1	1607	1.22	2.12			
USNRL	29	1555	1636	1606	N06	W54	4841	41	1	3	1606	.90	1.54	2.00	117	
MT WILSON	29	1556	1635		N05	W57	4841	39	1&							
MCMATH	29	1800	1825	1803	N05	W58	4841	25	1	1	1803	1.38	2.40			
MT WILSON	29	1832	1845		S14	E13	4847	13	1							
USNRL	29	1945	2100 D	1951	N06	W58	4841	75 D	1	2	1951	1.36	2.58		86	
MT WILSON	29	2007	2027		N06	W58	4841	20	1							
ONDREJOV	30	0815 E	0820		N36	W14	4839	5 D	1	3	0718			2.00		
WENDEL	30	0830 E	0841		S15	E50	4849	11 D	1				3.00			
ONDREJOV	30	0840 E	0846		S14	E54	4849	6 D	1	3	0840			2.00		
WENDEL	30	0852	0914 D	0856	S14	E49	4849	22 D	1				3.00			
WENDEL	30	0933 E	0946 D		N04	W72	4841	13 D	1				4.00			
ONDREJOV	30	1153 E	1208		S16	E50	4849	15 D	1	3	1200			2.90		
USNRL	30	1240	1349	1253	S15	E51	4849	69	1	2	1253	1.35	2.24		84	
WENDEL	30	1241 E	1314 D		S14	E52	4849	33 D	1				4.00			
ONDREJOV	30	1242	1258		S16	E50	4849	16	1	3	1250			2.90		
CAPRI-S	30	1247 E	1310 D		S15	E50	4849	23 D	1	3	1302	2.00	3.30			
CAPRI-S	30	1502	1516 D		S15	W56	4835	14 D	1	1	1516	1.50	2.80			
USNRL	30	1511	1716	1532	S11	E55	4849	125	1	2	1532	1.81	3.56	1.00	83	
MCMATH	30	1630	1740	1653	N13	E04	4844	70	1	1	1653	2.60	2.65			C-SWF
USNRL	30	1646 E	1832	1648	N13	E05	4844	106 D	1	2	1648	2.71	2.76	1.00	88	
HAWAII	30	2042 E	2052		S23	E42	4849	10 D	1	1	2050	2.50	3.70			
ONDREJOV	31	0643	0658	0644	N07	W78	4841	15	1&	3	0644			4.70		S-SWF
ONDREJOV	31	0654 E	0659		S15	E38	4849	5 D	1	3	0654			2.70		
WENDEL	31	0816	0828		N07	W74	4841	12	1&				5.00			
WENDEL	31	0940	0955	0945	N21	E45	4851	15	1&				5.00			
ONDREJOV	31	0942 E	0949 D		N21	E48	4851	7 D	1	3	0943			3.40		
ONDREJOV	31	0950 E	1049		S20	E38	4849	59 D	1&	3	1007			2.80		
WENDEL	31	0950	1200 D	1115	S18	E40	4849	130 D	2&				18.00			S-SWF
ZURICH	31	1003 E	1049		S19	E40	4849	46 D	3	2	1003		14.00			
DUNSINK	31	1110	1131	1114	S18	E42	4849	21	2			5.00		2.75		S-SWF
ONDREJOV	31	1110 E	1142		S18	E45	4849	32 D	2	3	1118			3.10		
SAC PEAK	31	1500	1540	1507	S14	E32	4849	40 D	1	2		2.30			22	
USNRL	31	1502	1552	1510	S15	E32	4849	50	1	2	1510	1.36	1.71	2.00	120	Slow S-SWF
WENDEL	31	1504 E	1516 D		S13	E36	4849	12 D	1&				5.00			

COMMERCE - STANDARDS - BOULDER

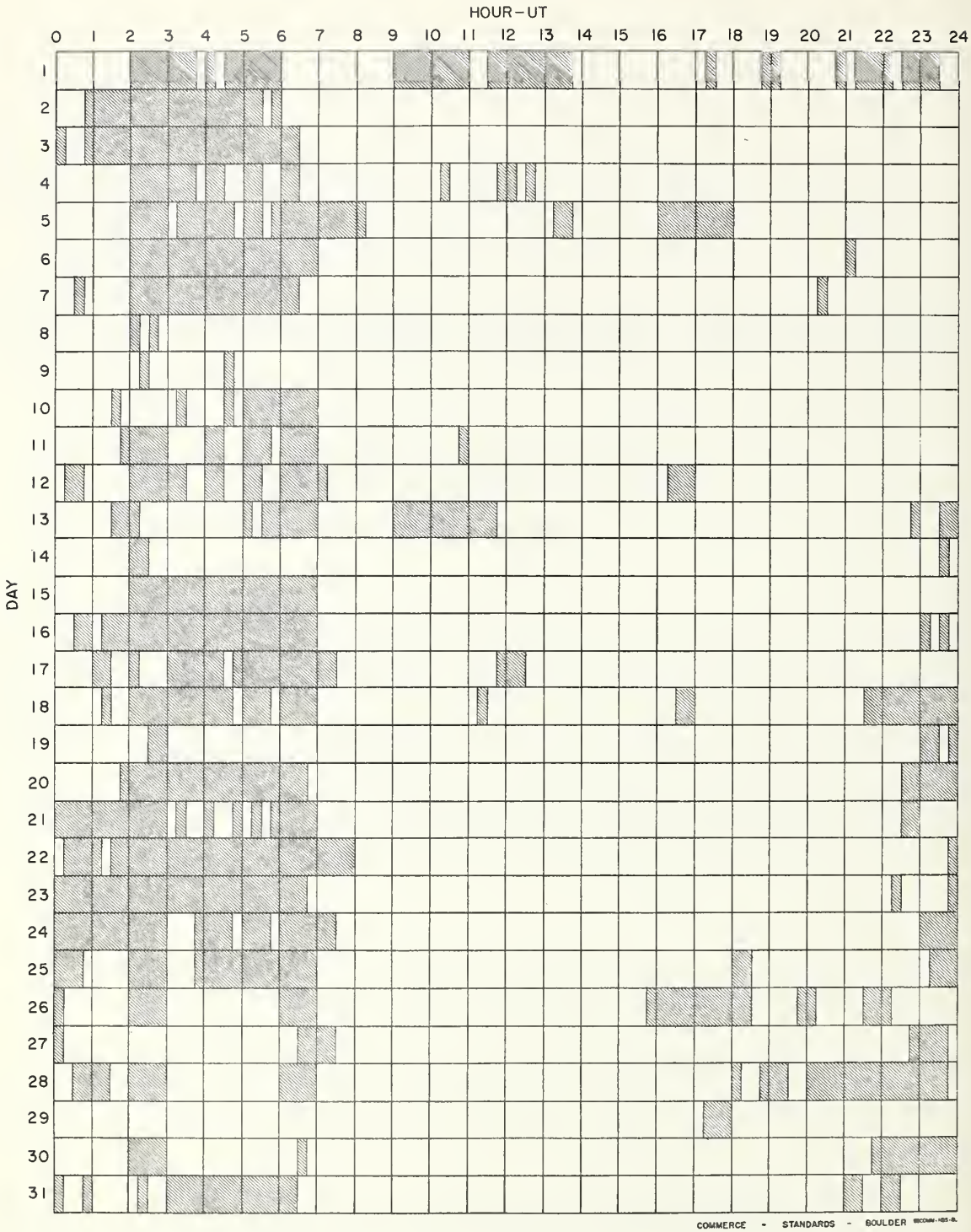
CAPRI C ANACAPRI - CERMAN
CAPRI S ANACAPRI - SWEDISH
COOD HOPE ROYAL OBSERVATORY, CAPE OF COOD HOPE
KIEV* KIEV UNIVERSITY
KODAIKNL KODAIKANAL
KRASNYA KRASNYA PAKHRA
MOSCOW NIZMIR
MOSCOW-C MOSCOW - CAISH
R O EDIN ROYAL OBSERVATORY, EDINBURGH
R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK SACRAMENTO PEAK
SCHAUINS SCHAUINSLAND
USNRL UNITED STATES NAVAL RESEARCH LABORATORY

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

E - LESS THAN & - PLUS
D - GREATER THAN - MINUS
U - APPROXIMATE [] - NOT REPORTED

INTERVALS OF NO FLARE PATROL OBSERVATIONS

OCTOBER 1958



Times indicated are accurate to the nearest 15 minutes.

Stations Included:

Anacapri (Swedish)	Huancayo	Sacramento Peak
Arcetri	Mitaka	Uccle
Athens	Meudon	U. S. Naval Research
Climax	Nizamiah	Laboratory
Dunsink	Ondrejov	Zurich
Hawaii	Ottawa	Locarno.

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

SEPTEMBER 1958

CLIMAX	01	0010	S09 E04
CLIMAX	01	0043	S09 E04
HAWAII	01	0044	S10 E05
UCCLE	01	0859	S09 W15
UCCLE	01	0930	S13 W25
UCCLE	01	0954	N15 W10
UCCLE	01	0958	N27 W08
UCCLE	01	1001	N22 E42
UCCLE	01	1001	S12 W10
UCCLE	01	1013	S07 W17
WENOEL	01	1015 E	N26 W09
UCCLE	01	1029	N14 W11
USNRL	01	1233	N27 W09
SAC PEAK	01	1322 E	S05 W20
SAC PEAK	01	1340	S15 E90
SAC PEAK	01	1355	S12 W09
SAC PEAK	01	1420	S02 W23
USNRL	01	1426 E	S11 W09
SAC PEAK	01	1432	N17 E26
SAC PEAK	01	1435	S08 W19
USNRL	01	1438	S09 W19
SAC PEAK	01	1457	N13 W18
SAC PEAK	01	1532	N26 W10
USNRL	01	1536	N27 W12
USNRL	01	1552	N23 W16
SAC PEAK	01	1630	S10 W12
SAC PEAK	01	1702	N12 W15
SAC PEAK	01	1725	N14 W16
*SAC PEAK	01	1820	S12 E90
*CLIMAX	01	1821	S13 E90
SAC PEAK	01	1825	S05 W23
SAC PEAK	01	1845	N22 E32
SAC PEAK	01	1902	N14 W22
CLIMAX	01	2008	S17 E90
SAC PEAK	01	2101 E	S16 E90
SAC PEAK	01	2101 E	N27 W14
SAC PEAK	01	2355 E	N14 W20
UCCLE	02	0929	S16 E88
*OTTAWA	02	1222	S10 W23
*USNRL	02	1223	S10 W23
USNPL	02	1234	S13 E88
OTTAWA	02	1307	S09 W37
*SAC PEAK	02	1310	S08 E87
*SAC PEAK	02	1340	S17 E80
*OTTAWA	02	1343 E	S14 E76
*USNPL	02	1343	S16 E79
MCMATH	02	1445	S16 E85
*SAC PEAK	02	1522	S15 E77
*SAC PEAK	02	1532	N17 E90
*USNRL	02	1538	N18 E90
*SAC PEAK	02	1557	S15 E77
*SAC PEAK	02	1630	S08 W32
*MCMATH	02	1632	S08 W33
*USNRL	02	1632	S08 W33
*SAC PEAK	02	1637	S06 W36
*MCMATH	02	1638	S07 W33
*USNRL	02	1639	S08 W37
*SAC PEAK	02	1640	S15 E75
*SAC PEAK	02	1642	S08 W30
*OTTAWA	02	1645	S08 W29
SAC PEAK	02	1720	S15 W35
MCMATH	02	1722	S07 W35
USNPL	02	1722	S08 W35
*SAC PEAK	02	1742	N24 W27
CLIMAX	02	1800	S08 W33
MCMATH	02	1800	S08 W35
SAC PEAK	02	1800	S07 W34
USNRL	02	1801	S09 W33
SAC PEAK	02	1832	N15 W33
USNPL	02	1835	N13 W34
SAC PEAK	02	1855	S08 W30
MCMATH	02	1855	S08 W30
USNRL	02	1858	S09 W30
SAC PEAK	02	1927	N14 W29
MCMATH	02	1928	N13 W29
USNRL	02	1931	N12 W31
MCMATH	02	1958	N12 W30
*SAC PEAK	02	2015	S08 E85
MCMATH	02	2028	S10 W26
SAC PEAK	02	2030	S10 W26
SAC PEAK	02	2032	N16 E90
SAC PEAK	02	2037	N36 W09
MCMATH	02	2039	N30 W10
*CLIMAX	02	2111 E	S09 E89
HAWAII	02	2215 E	N14 E90
SAC PEAK	02	2227 E	S07 W36
SAC PEAK	02	2335	N17 E90
SAC PEAK	02	2337	S07 W37
SAC PEAK	02	2337	N14 W34
SAC PEAK	02	2347	S13 W26
APCETRI	03	0814 E	S15 E69
UCCLE	03	0823 E	S18 W72
UCCLE	03	0923	S09 E80
UCCLE	03	0944	N16 W44
UCCLE	03	0957	S10 E87
ONDREJOV	03	0958 E	S05 E71
UCCLE	03	1001	N11 E30
UCCLE	03	1050	S12 W90
*UCCLE	03	1204	S07 E75
*CAPRI-S	03	1207 E	S05 W49
*OTTAWA	03	1207 E	S07 W52
*USNRL	03	1219 E	S06 W53
USNRL	03	1219 E	N15 W45
*OTTAWA	03	1309	S08 W44
*OTTAWA	03	1319	S07 W53
SAC PEAK	03	1445	S17 E44
USNRL	03	1445	S18 E44
OTTAWA	03	1448 E	S17 E45
*USNRL	03	1511	S04 W48
SAC PEAK	03	1530	N15 E80
SAC PEAK	03	1557	S08 E90
USNRL	03	1559 E	S17 E88
SAC PEAK	03	1617	N16 E81
SAC PEAK	03	1620	S13 W43
SAC PEAK	03	1737	S10 W44
SAC PEAK	03	1742	S09 W38
USNPL	03	1743 E	S20 W39
SAC PEAK	03	1757	S09 E69
USNRL	03	1758	S08 E68
HAWAII	03	2208	S10 W41
SAC PEAK	03	2230 E	N27 W37
SAC PEAK	03	2247	S03 W53
SAC PEAK	03	2300	N11 E22
SAC PEAK	03	2325	N18 E90
SAC PEAK	03	2330	S08 E65
SAC PEAK	03	2340	N30 W29
WENOEL	04	1320 E	S11 E58
USNRL	04	1320	S12 E56
*USNRL	04	1339	S11 W50
USNRL	04	1400	N27 W50
WENOEL	04	1400 E	N26 W50
USNRL	04	1439	S09 E67
USNRL	04	1441	N16 W60
CAPRI-S	04	1441	N15 W60
*CLIMAX	04	1456	N13 W61
*USNRL	04	1457	N12 W61
*CAPRI-S	04	1500 E	N12 W89
USNRL	04	1522	S06 E55
*USNRL	04	1537	N17 E67
*MCMATH	04	1539	N16 E68
USNRL	04	1545	N33 W31
*USNRL	04	1554	N08 W11
USNRL	04	1610	N17 E67
MCMATH	04	1613 E	N16 E68
SAC PEAK	04	1700	S10 W53
USNPL	04	1701	S11 W53
MCMATH	04	1702	S11 W53
CLIMAX	04	1724	S18 E47
SAC PEAK	04	1725	S16 E47
USNRL	04	1726	S15 E46
MCMATH	04	1729 E	S16 E47
USNRL	04	1833	S07 E53
HAWAII	04	2004	N26 W55
USNPL	04	2006	N25 W55
HAWAII	04	2250	S11 E54
HAWAII	04	2356 E	S11 W57
*ONDREJOV	05	0550 E	S08 E51
*WENOEL	05	0650 E	S08 E53
*UCCLE	05	0841	S16 E41
UCCLE	05	0843	S09 W64
WENOEL	05	0940 E	S10 W64
WENOEL	05	0942 E	S10 E44
UCCLE	05	0946	S11 W90
WENOEL	05	0948 E	S12 W88
UCCLE	05	1116	S12 E49
OTTAWA	05	1121	S09 E47
UCCLE	05	1140	S08 W56
UCCLE	05	1140	S08 W65
USNPL	05	1247	S10 W65
*USNRL	05	135R	S10 E50
USNRL	05	1500	S08 E43
USNRL	05	1517	S18 E36
*USNRL	05	1525	N31 W82
USNRL	05	1946	S18 E38
USNRL	05	1949	S17 E32
CLIMAX	06	0014	N24 W78
CAPRI-S	06	0652 E	N31 W60
*LOCARNO	06	0946	N26 W73
LOCARNO	06	1025	S16 E31
*CAPRI-S	06	1112	S03 E30
ONDREJOV	06	1204	N18 E72
*MCMATH	06	1319	S07 E28
*CLIMAX	06	1335 E	S08 E29
WENOEL	06	1433 E	N09 E19
LOCARNO	06	1448	N29 W68
*USNPL	06	1458	S12 W79
SAC PEAK	06	1552	S08 E37
SAC PEAK	06	1552	S14 E18
SAC PEAK	06	1557	N16 W80
*SAC PEAK	06	1642 E	N13 W80
SAC PEAK	06	1722 E	N17 E78
SAC PEAK	06	1817	N22 E78
SAC PEAK	06	1835	S07 E27
SAC PEAK	06	1852	N17 E36
SAC PEAK	06	1925	S11 E28
SAC PEAK	06	2125	S07 E23
*CLIMAX	06	2340 E	S05 E22
LOCARNO	07	1020	S18 E17
*LOCARNO	07	1059	S18 E22
*CAPRI-S	07	1131 E	N20 E65
WENOEL	07	1220 E	N19 E26
USNPL	07	1251	S12 E17
WENOEL	07	1253 E	S11 E18
USNPL	07	1343	N11 W29
SAC PEAK	07	1437 E	S12 W90
SAC PEAK	07	1440	N22 E56
*CLIMAX	07	1504	S08 E14
*USNPL	07	1532	S18 E16
SAC PEAK	07	2217	S09 E85
SAC PEAK	07	2250	S07 E11
HAWAII	08	0104	S18 E08
LOCARNO	08	1013	N18 E53
USNRL	08	1231	S15 E06
LOCARNO	08	1255	S15 W11
USNRL	08	1330	S08 W01
*USNPL	08	1355	S16 W11
MCMATH	08	1357	N33 E90
*USNRL	08	1434	N23 E54
USNRL	08	1441	N16 E86
SAC PEAK	08	1505	N36 W81
LOCARNO	08	1509	N36 W80
LOCARNO	08	1510	N20 E19
LOCARNO	08	1525	S09 E67
*CAPRI-S	08	1525 E	N19 E50
MCMATH	08	1558	S08 E70
USNRL	08	1600	S18 E72
USNPL	08	1644	S08 E03
*MCMATH	08	1713	N21 E53
MCMATH	08	1748	N22 E53
USNRL	08	1753	S16 W13
MCMATH	08	1754	S16 W13
USNRL	08	1815	N21 E51
USNRL	08	1821	S18 W02
MCMATH	08	2049	N19 E50
SAC PEAK	08	2105 E	N16 E80
LOCARNO	09	0705 E	N19 E43
WENOEL	09	1012 E	N19 E36
*WENOEL	09	1042 E	N17 E04
*CAPRI-S	09	1042	N06 E02
*OTTAWA	09	1146	N20 E41
USNRL	09	1200 E	N16 E01
*USNPL	09	1211	S10 W09
*OTTAWA	09	1212	S06 W07
*OTTAWA	09	1215	S09 E00
USNRL	09	1219	N10 E41
SAC PEAK	09	1340	N19 E40
USNPL	09	1340	N18 E40
LOCARNO	09	1345 E	N19 E40
SAC PEAK	09	1400	S32 E90
SAC PEAK	09	1410	N18 E03
SAC PEAK	09	1432	N16 E90
WENOEL	09	1451 E	N19 E39
*SAC PEAK	09	1510	N19 E40
USNPL	09	1514	N30 E40
USNRL	09	1515	N18 W01
SAC PEAK	09	1517	N18 E90
SAC PEAK	09	1620 E	N09 E20
USNRL	09	1633	S15 W20
USNRL	09	1637	N19 E38
OTTAWA	09	1640	N20 E38
ONDREJOV	09	1642 E	N10 E39
USNRL	09	1808	N19 E38
USNRL	09	1842	S08 W10
MCMATH	09	1850	S08 W11
MCMATH	09	1900	N19 E40
CLIMAX	09	2041 E	N27 W16
SAC PEAK	09	2210 E	S32 E90
*SAC PEAK	09	2212	S11 W16
*UCCLE	10	1023	S10 W25
UCCLE	10	1118	S32 E48
MCMATH	10	1245	S30 E70
USNRL	10	1254	S33 E67
SAC PEAK	10	1344 E	N14 E90
SAC PEAK	10	1350	S37 E85
SAC PEAK	10	1352	S19 W25
SAC PEAK	10	1352	S15 E48
SAC PEAK	10	1355	S20 W48
USNPL	10	1411 E	S15 E47
USNRL	10	1438 E	S15 W25
SAC PEAK	10	1602	N12 E54
SAC PEAK	10	1632	S11 W18
*SAC PEAK	10	1650	S35 E75
SAC PEAK	10	1702	N19 E25
SAC PEAK	10	1747	S22 E69
CLIMAX	10	1749	S22 E71
MCMATH	10	1749 E	S23 E77
SAC PEAK	10	1800	N21 W14
SAC PEAK	10	1800	S07 W32
MCMATH	10	1808 E	N20 W12
SAC PEAK	10	1830 E	N18 W15
SAC PEAK	10	1830 E	N20 E33
SAC PEAK	10	2025 E	N21 W13
SAC PEAK	10	2100	N13 E54
*CAPRI-S	11	0928 E	N17 W18
UCCLE	11	0929 E	S14 W41
UCCLE	11	1023	N22 E16
UCCLE	11	1043 E	N10 W50
UCCLE	11	1050	S06 W45
UCCLE	11	1101	N20 W20
LOCARNO	11	1113	N14 E80
CAPRI-S	11	1115 E	N19 E85
UCCLE	11	1127	S06 W44
UCCLE	11	1133	N14 E90
*MCMATH	11	1211	N20 W21
*CAPRI-S	11	1217	N17 W19
*USNRL	11	1217	N19 W20
*USNRL	11	1243	S18 W35
MCMATH	11	1449	S30 E65
USNPL	11	1455 E	S32 E63
MCMATH	11	1636	N20 W25
MCMATH	11	1716	S07 W43
*MCMATH	11	1725	S35 E60
MCMATH	11	1727	N20 W23
USNRL	11	1733 E	N19 W20
*USNRL	11	1746 E	S09 W40
*HAWAII	11	1809 E	S06 W41
MCMATH	11	1950	S12 E80
*MCMATH	11	2036	S12 W46
MCMATH	11	2126	S08 W47
HAWAII	11	2206	S13 E35
UCCLE	12	0823	N11 E85
*CAPRI-S	12	0853 E	N19 E07
MCMATH	12	1141	N16 W39
MCMATH	12	1213	S10 E28
CAPRI-S	12	1307	N22 E04
CAPRI-S	12	1312 E	S17 W50
*CAPRI-S	12	1340	S10 E30
*USNPL	12	1353	S10 E27
MCMATH	12	1403	N21 E04
SAC PEAK	12	1547 E	N14 E56
*SAC PEAK	12	1548	S35 E52
MCMATH	12	1549	N18 W43
*USNRL	12	1550	S33 E52
SAC PEAK	12	1554 E	N17 W42
MCMATH	12	1626	N18 W36
*MCMATH	12	1648	S35 E58
*USNPL	12	1650	S35 E55
MCMATH	12	1716	S09 E26
MCMATH	12	1733	N17 W13
MCMATH	12	1738	S14 W55
USNRL	12	1844	S08 W64
USNRL	12	1913	S31 E48
MCMATH	12	2021	S32 E51
MCMATH	12	2029	N20 W02
MCMATH	12	2042	N20 W02
MCMATH	12	2054 E	S10 W55
MCMATH	12	2116	S30 E47
MCMATH	12	2129	S09 E24
UCCLE	13	0822 E	N15 E49
UCCLE	13	0828	S13 E18
UCCLE	13	0911	S16 E51
UCCLE	13	1143	S12 E15
WENOEL	13	1147 E	S31 E39
MCMATH	13	1147 E	S31 E33
USNRL	13	1202 E	S31 E35
USNRL	13	1221	S10 E15
WENOEL	13	1223 E	S10 E14
*USNRL	13	1344	S13 E69
WENOEL	13	1406 E	S20 E78
MCMATH	13	1409	S21 E85
USNRL	13	1409	S22 E80
*MCMATH	13	1424	S10 W70
*USNPL	13	1440 E	S09 W71
*MCMATH	13	1444	N16 E58
*USNPL	13	1449 E	N15 E57
*LOCARNO	13	1450 E	N15 E57
LOCARNO	13	1540 E	S18 E74
*LOCARNO	13	1600	S05 W74
MCMATH	13	1640 E	S10 E15
MCMATH	13	1823	S29 E33
MCMATH	13	2030	N18 W60
MCMATH	13	2143	S18 E58
CLIMAX	13	2217	N22 E83
HAWAII	13	2230	N16 E80
HAWAII	14	0024	S12 E14
WENOEL	14	0848 E	S17 E48
ONDREJOV	14	1017	S18 E70
*WENOEL	14	1201 E	S17 E66
*CAPRI-S	14	1220 E	S17 E61
*USNRL	14	1220	S17 E66
WENOEL	14	1235 E	S09 W04
USNRL	14	1235	S10 W03
MCMATH	14	1238 E	S12 W02
ZURICH	14	1240	S11 W02
USNRL	14	1240	S11 W02
LOCARNO	14	1245	S09 W03
USNRL	14	1250	S17 E67
LOCARNO	14	1255	S22 W13
MCMATH	14	1326	S09 W03
USNRL	14	1326	S09 W04
*MCMATH	14	1330	S19 E68
*USNPL	14	1330	S18 E63
MCMATH	14	1350	S09 E07
USNRL	14	1359	S08 E05
UCCLE	14	1400	S09 E06
SAC PEAK	14	1400	S09 E05
UCCLE	14	1406	S09 E04
SAC PEAK	14	1420	S18 E64
SAC PEAK	14	1445	S18 E65
MCMATH	14	1447	S18 E68
USNRL	14	1448	S18 E65
SAC PEAK	14	1525	S17 E66
USNRL	14	1528	S18 E65
USNRL	14	1539	S18 E65
MCMATH	14	1540	S18 E68
SAC PEAK	14	1540	S17 E66
ZURICH	14	1550 E	S16 E64
*SAC PEAK	14	1612	S10 W03
SAC PEAK	14	1717	S22 E65
SAC PEAK	14	1725	S17 E64
MCMATH	14	1741	S21 W17
SAC PEAK	14	1757	S17 E65
SAC PEAK	14	1820	S15 E44

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

SEPTEMBER 1958

CLIMAX	14	1934		S18 E64	SAC PEAK	18	1835		S16 E06	SAC PEAK	24	1517		S21 E52
SAC PEAK	14	1935		S12 W05	*MCMATH	18	1846		S15 E07	SAC PEAK	24	1645		N21 W62
SAC PEAK	14	1942		S19 E64	SAC PEAK	18	1912		N21 E22	USNRL	24	1700	E	N20 W63
SAC PEAK	14	1947		N09 W75	USNRL	18	1917	E	N21 E21	SAC PEAK	24	1740		S03 E24
SAC PEAK	14	2100		S18 E62	SAC PEAK	18	2000		S16 E06	SAC PEAK	24	1802		S23 E65
SAC PEAK	14	2105		N09 W76	SAC PEAK	18	2200		S17 E08	SAC PEAK	24	1932		S25 E60
CLIMAX	14	2120		S19 E52	SAC PEAK	18	2312		S33 W28	SAC PEAK	24	1940		N31 W10
HAWAII	14	2122		S21 E52	SAC PEAK	18	2337		N08 E31	USNRL	24	1951	E	N30 W11
SAC PEAK	14	2132	U	S19 E52						HAWAII	24	1956		N33 W09
SAC PEAK	14	2215		S18 E62	CAPRI-S	19	0715	E	S18 W07	USNRL	24	1957		N21 W64
SAC PEAK	14	2217		S29 E05	WENDEL	19	0743	E	S15 E03	SAC PEAK	24	2212		S17 E44
CLIMAX	14	2325		S16 E33	UCCLE	19	0803	E	N15 W65	SAC PEAK	24	2237		S17 E46
SAC PEAK	14	2325		S15 E33	*UCCLE	19	0810		N15 W37	SAC PEAK	24	2242		N30 W14
SAC PEAK	14	2342		S20 E58	UCCLE	19	0846		N17 W28	SAC PEAK	24	2325		S03 E22
					UCCLE	19	0853		N15 W37					
MITAKA	15	0634	E	S17 E38	UCCLE	19	1045		S29 E50	ATHENS	25	0610		S05 E16
**MITAKA	15	0638	E	N18 E36	*UCCLE	19	1114		S23 E02	UCCLE	25	0745	E	S17 E40
*WENDEL	15	0903	E	S17 E48	USNRL	19	1302		S10 W68	UCCLE	25	0745	E	S24 E58
WENDEL	15	1129	E	S19 E54	USNRL	19	1307		S15 W06	UCCLE	25	0906		N25 W75
*USNRL	15	1230	E	S20 E48	USNRL	19	1334		S17 W01	LOCARNO	25	0928		S03 E15
WENDEL	15	1307	E	S11 E12	*USNRL	19	1336		N23 E08	LOCARNO	25	1154		S12 E73
*USNRL	15	1317		S16 E55	*CAPRI-S	19	1343		N23 E09	USNRL	25	1257		N25 W72
*OTTAWA	15	1318		S16 E56	*SAC PEAK	19	1402		S16 W03	* USNRL	25	1312		S24 E55
*USNRL	15	1328		S20 E53	*MCMATH	19	1404		S17 W03	USNRL	25	1440		N22 W77
*OTTAWA	15	1328		S20 E54	*USNRL	19	1405		S17 W03	USNRL	25	1442		N25 W72
*OTTAWA	15	1330		S16 E57	MCMATH	19	1446		N14 W31	USNRL	25	1521		S24 E55
*USNRL	15	1330		S18 E57	SAC PEAK	19	1447		N15 W32	SAC PEAK	25	1525		S24 E55
*SAC PEAK	15	1350	E	S15 E55	USNRL	19	1447		N14 W32	SAC PEAK	25	1532		N24 W76
*SAC PEAK	15	1352		S09 W49	SAC PEAK	19	1515		S17 W03	SAC PEAK	25	1644	E	N24 W76
*MCMATH	15	1352		S10 W48	USNRL	19	1523	E	S16 W04	USNRL	25	1649		N22 W77
*USNRL	15	1353		S09 W48	*MCMATH	19	1543		N15 W26	SAC PEAK	25	1650		S19 W85
SAC PEAK	15	1407		S21 E53	*SAC PEAK	19	1555		S16 W03	*USNRL	25	1654		S10 E62
OTTAWA	15	1408		S21 E50	*CAPRI-S	19	1558		S16 W04	*SAC PEAK	25	1657		S10 E62
MCMATH	15	1408		S20 E51	*MCMATH	19	1559	E	S17 W04	SAC PEAK	25	1812	U	S24 E49
USNRL	15	1409		S20 E50	SAC PEAK	19	1757		N20 E03	*HAWAII	25	2048	E	S05 E08
SAC PEAK	15	1427		S17 E55	SAC PEAK	19	1815		S09 W27					
*MCMATH	15	1445		S09 W50	SAC PEAK	19	1825		S15 W07	HAWAII	26	0004		S28 E49
*SAC PEAK	15	1445		S11 W60	MCMATH	19	1828		S15 W08	HAWAII	26	0048		N28 W88
*MCMATH	15	1512		S19 E53	USNRL	19	1830		S16 W07	OTTAWA	26	1207	E	N22 W88
SAC PEAK	15	1535		S17 E55	SAC PEAK	19	1902		S16 W05	OTTAWA	26	1353		S15 E25
USNRL	15	1551		S19 E51	USNRL	19	1912		S15 W03	USNRL	26	1419		N23 W90
SAC PEAK	15	1605		S16 W90						OTTAWA	26	1419		N21 W89
*SAC PEAK	15	1610		N23 E34	MITAKA	20	0121	E	S13 W75	*CLIMAX	26	1537		S11 W23
*USNRL	15	1610		N22 E31	UCCLE	20	1019		N25 E00	USNRL	26	1538		S12 W23
*SAC PEAK	15	1622		S19 E49	CAPRI-S	20	1035		S15 W10	CAPRI-S	26	1539	E	S11 W21
*USNRL	15	1623		S18 E48	UCCLE	20	1042		S21 W03	USNRL	26	1642	E	S22 E40
*MCMATH	15	1628	E	S19 E48	UCCLE	20	1111		S15 W29	CLIMAX	26	1646		S11 E47
*USNRL	15	1646		S21 E49	SAC PEAK	20	1347		S17 W11	USNRL	26	1647		S10 E46
USNRL	15	1651		S18 E58	SAC PEAK	20	1435		S17 W17	CLIMAX	26	1809		S16 E76
SAC PEAK	15	1655		S07 W88	SAC PEAK	20	1510		S17 W11	USNRL	26	1814	E	S15 E70
USNRL	15	1657		S07 W89	*SAC PEAK	20	1530		S16 W20	USNRL	26	1816		N22 W90
USNRL	15	1709		S11 W14	CLIMAX	20	1531		N29 W21	USNRL	26	1841		S23 E39
USNRL	15	1751		S17 E53	*CLIMAX	20	1550		N12 E32	USNRL	26	2004		N09 E55
SAC PEAK	15	1815		S09 W51	*SAC PEAK	20	1550		N13 E31	CLIMAX	26	2006		N09 E55
USNRL	15	1819		S09 W50	*WENDEL	20	1604	E	N09 E21	SAC PEAK	26	2200		S09 W04
USNRL	15	1826		S19 E51	SAC PEAK	20	1605		S01 E88	CLIMAX	26	2200		S09 W04
USNRL	15	1826		N25 E34	SAC PEAK	20	1750		S02 E68	SAC PEAK	26	2339		N27 E60
SAC PEAK	15	1835	E	S20 E47	*SAC PEAK	20	1910		N24 W04					
SAC PEAK	15	1845		N21 E30	SAC PEAK	20	1940		N20 W13	UCCLE	27	1108	E	S11 E18
HAWAII	15	1854		N20 E34	MCMATH	20	1946	E	N22 W10	UCCLE	27	1140		N28 E56
USNRL	15	1859		N23 E35	SAC PEAK	20	1950		S17 W17	CAPRI-S	27	1233	E	S12 E18
USNRL	15	1904		S18 E48	MCMATH	20	1952		S17 W18	USNRL	27	1245	E	N29 E53
SAC PEAK	15	1905		S17 E46	MCMATH	20	2136	E	N22 W05	MEUDON	27	1302		S12 E14
* SAC PEAK	15	1937		S16 E46	SAC PEAK	20	2305		N10 E22	USNRL	27	1312		N14 W30
* HAWAII	15	1942	E	S21 E47	CLIMAX	20	2308		N10 E22	USNRL	27	1314		S09 E34
* SAC PEAK	15	2208	E	S20 E47						MCMATH	27	1345	E	N14 W32
SAC PEAK	15	2217		S17 E50	CAPRI-S	21	0930	E	N24 W14	MEUDON	27	1446		S12 E14
SAC PEAK	15	2232		S16 E45	CAPRI-S	21	1119		N21 W19	*MCMATH	27	1522		S11 E37
HAWAII	15	2234	E	S21 E44	CAPRI-S	21	1243		N21 W20	*USNRL	27	1527		N28 W50
SAC PEAK	15	2300		S17 E44	*CAPRI-S	21	1333		S18 W40	*MEUDON	27	1527		N25 W46
SAC PEAK	15	2342		S18 E43	*R O HERST	21	1335	E	S17 W38	*MCMATH	27	1527		N29 W50
					SAC PEAK	21	1412		N24 W15	MCMATH	27	1542		S10 E13
WENDEL	16	0701	E	S18 E43	SAC PEAK	21	1450		S02 E72	MCMATH	27	1607		N06 E45
WENDEL	16	0714	E	N18 E13	CLIMAX	21	1452		S04 E72	MEUDON	27	1609		N08 E44
* CAPRI-S	16	0744	E	S19 E40	SAC PEAK	21	1500		N21 W24	MCMATH	27	1618		N15 W34
ONOREJOV	16	1001		S16 E42	SAC PEAK	21	1502		S20 E90	MCMATH	27	1630		S10 E12
*R O HERST	16	1105	E	N23 E49	*SAC PEAK	21	1532		N21 W23					
ONOREJOV	16	1143	E	S16 E40	*CLIMAX	21	1534		N22 W23	WENDEL	28	0728	E	N14 W42
SAC PEAK	16	1415		S17 E36	SAC PEAK	21	1600		N18 W54	WENDEL	28	0930	E	N27 W59
SAC PEAK	16	1520		S17 E16	SAC PEAK	21	1630		N12 E22	WENDEL	28	1003	E	S18 E29
SAC PEAK	16	1522		N18 E08	SAC PEAK	21	1637		N21 W23	WENDEL	28	1003	E	N30 W53
USNRL	16	1523		S17 E17	SAC PEAK	21	1722		N23 W23	* CAPRI-S	28	1123	E	S11 E24
USNRL	16	1525		N19 E09	SAC PEAK	21	1935		N16 W59	MCMATH	28	1400		S16 E46
SAC PEAK	16	1607		S19 E26	SAC PEAK	21	2005	U	N21 W28	OTTAWA	28	1435		N31 E35
SAC PEAK	16	1615		N13 E14	SAC PEAK	21	2030		S02 E69	USNRL	28	1505		N09 E28
SAC PEAK	16	1730		S18 E34						* MCMATH	28	1520	E	N28 W53
USNRL	16	1731		S20 E33	UCCLE	22	0949	E	N24 W30	*USNRL	28	1521		N28 W63
SAC PEAK	16	1735		S23 E47	MCMATH	22	1234		N21 W32	* CAPRI-S	28	1532		N30 W55
USNRL	16	1747		S17 E33	USNRL	22	1235		N21 W31	HAWAII	28	2046		N32 W66
USNRL	16	1803	E	N18 E07	MCMATH	22	1249		S03 E59	CLIMAX	28	2238		S06 W28
USNRL	16	1818		S18 E42	MCMATH	22	1257		N22 W33	HAWAII	28	2240		S04 W30
USNRL	16	1852		S19 E34	USNRL	22	1257		N23 W34					
USNRL	16	1910		N18 E07	OTTAWA	22	1331		S02 E59	OTTAWA	29	1203		N29 E46
USNRL	16	1938		S18 E38	* USNRL	22	1402		N21 W31	MCMATH	29	1212		N14 W56
MCMATH	16	1945		S19 E35	MCMATH	22	1441		N21 W37	OTTAWA	29	1214		N11 W54
USNRL	16	1947		S19 E33	USNRL	22	1442		N23 W36	OTTAWA	29	1228		N28 E22
SAC PEAK	16	2212		N18 E04	MCMATH	22	1556		N23 W32	*USNRL	29	1230		N28 E48
*CLIMAX	16	2230		S18 E42	USNRL	22	1601		N24 W31	WENDEL	29	1242	E	N14 W57
SAC PEAK	16	2232		S17 E30	MCMATH	22	1655	E	S17 E80	MCMATH	29	1515		S14 E90
					MCMATH	22	1655	E	S02 E58	SAC PEAK	29	1515		S13 E85
USNRL	17	1222		N23 E39	MCMATH	22	1725		N20 W40	SAC PEAK	29	1530		S22 W20
USNRL	17	1240		S19 E23	CLIMAX	22	1831		S03 E54	MCMATH	29	1546		S16 E60
CAPRI-S	17	1250	E	N23 E41	MCMATH	22	1832		S05 E56	*SAC PEAK	29	1552		S15 E60
CLIMAX	17	1344		N23 E37	USNRL	22	1832		S04 E54	*CLIMAX	29	1552		S15 E60
USNRL	17	1420		S18 E22	HAWAII	22	1834		S06 E53	*USNRL	29	1558		S08 E07
SAC PEAK	17	1512		S11 W40	MCMATH	22	2024		S05 E56	*SAC PEAK	29	1600		S08 E06
USNRL	17	1514		S11 W41						SAC PEAK	29	1750		S14 E59
*SAC PEAK	17	1517		S22 E26	UCCLE	23	0840	E	N18 E82	MCMATH	29	1755		S16 E60
USNRL	17	1519		N23 E35	UCCLE	23	0926		S20 W50	CLIMAX	29	1805	E	S16 E58
*USNRL	17	1519		S24 E26	UCCLE	23	0958		S05 E46	SAC PEAK	29	1907		N18 E90
CAPRI-S	17	1525	E	N24 E36	UCCLE	23	1043		N24 W49	SAC PEAK	29	1915		N13 W60
*USNRL	17	1557	E	S23 E26	UCCLE	23	1045		S03 E45	MCMATH	29	1915		N13 W60
SAC PEAK	17	1625		S18 E22	UCCLE	23	1139		S07 E50	SAC PEAK	29	2017		S09 E04
USNRL	17	1635		S18 E15	MCMATH	23	1220		S05 E45	SAC PEAK	29	2020		N07 E13
USNRL	17	1637		N23 E35	MCMATH	23	1234		S15 W50	MCMATH	29	2115		N08 E07
USNRL	17	1755		S18 E39	*OTTAWA	23	1334	E	N23 W42	SAC PEAK	29	2115		N07 E06
CLIMAX	17	1823		S36 W13	*OTTAWA	23	1340		N22 W44	SAC PEAK	29	2230		S04 W38
USNRL	17	1830		S35 W12	*OTTAWA	23	1359		N20 W43	SAC PEAK	29	2257		N22 W90
USNRL	17	1836		S11 W45	MCMATH	23	1458		S05 E45					
USNRL	17	1904		N22 E31	OTTAWA	23	1500		S01 E42	HAWAII	30	0050		S11 W02
SAC PEAK	17	2010	E	S10 W46	USNPL	23	1507	E	S02 E43	*CAPRI-S	30	1117		S09 W01
SAC PEAK	17	2120		S18 W39	MCMATH	23	1817		N21 W50	SAC PEAK	30	1410		S16 W08
SAC PEAK	17	2315		S16 E22	USNRL	23	1818		N20 W50	SAC PEAK	30	1430		N31 W90
					MCMATH	23	1832		N25 W47	*SAC PEAK	30	1500		S16 W26
CAPPI-S	18	0832	E	S16 E14	USNRL	23	1834		N24 W46	SAC PEAK	30	1502		N31 E15
ARCETRI	18	1347	E	S22 E12	USNRL	23	1852		N23 W53	*MCMATH	30	1506	E	S16 W27
SAC PEAK	18	1347	E	N23 E25	MCMATH	23	1905		S20 W57	MCMATH	30	1506	E	N30 E17
CAPRI-S	18	1348	E	N23 E28	USNRL	23	1907		S21 W53	SAC PEAK	30	1512		N28 W90
SAC PEAK	18	1502		S10 W56	USNRL	23	1932		S23 E80	SAC PEAK	30	1512		S15 W30
USNRL	18	1504		S11 W58	MCMATH	23	2027		N20 W50	USNRL	30	1514	E	S12 E12
CAPPI-S	18	1505	E	S10 W54	HAWAII	23	2348		N10 W56	USNRL	30	1521	E	S15 W28
SAC PEAK	18	1557		S10 W58						SAC PEAK	30	1540	E	N19 W17
USNRL	18	1559		S11 W58	*MEUDON	24	0945		S18 W59	SAC PEAK	30	1540		S16 W27
USNRL	18	1614		N11 E54	UCCLE	24	1026	E	N30 W06	USNRL	30	1550	E	S17 W26
USNRL	18	1624		S15 E11	MEUDON	24	1110		N30 W07	SAC PEAK	30	1600		N33 E08
SAC PEAK	18	1625		S13 E10	UCCLE	24	1132		N30 W07	SAC PEAK	30	1725		S06 W17
USNPL	18	1643		S12 W58	MEUDON	24	1235		N30 W07	CLIMAX	30	2033		N17 W28
USNPL	18	1654		N23 E23	MEUDON	24	1255		N25 W50	*HAWAII	30	2110		N30 E12
*SAC PEAK	18	1655		S21 E12	SAC PEAK	24	1400		S23 E69	CLIMAX	30	2328		S22 W21
* USNRL	18	1657		S22 E16	SAC PEAK	24	1417		S20 W44					
SAC PEAK	18	1742		N21 E17	* SAC PEAK	24	1447		S03 E26					
USNRL	18	1746		N23 E20	USNRL	24	1517		S21 E53					

SOLAR FLARES

MARCH 1958

OBSERVATORY	DATE MAR 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLACE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
SCHAUINS	01	0912 E	0950		S12	W42	4436	38 D	2&	2			25.00			S-SWF
SIMEIZ	01	0912	1007	0917	S10	W46	4436	55	3	2	0917	28.81	47.00	5.50	80	
SCHAUINS	01	0929 E	0940		S16	E76	4445	11 D	1	2			3.00	5.50		S-SWF
SIMEIZ	01	0929 E	0949 D	0933	S16	E85	4445	20 D	1	2	0932	2.62	20.00	3.00	68	
CAPRI-G	01	1411 E	1416 D		N21	W26	4435	5 D	1	1			3.00			
CAPRI-G	01	1532 E	1537 D		S13	W55	4436	5 D	1	2			2.00			
TASHKENT	02	0653 E	0705		S21	E68	4445	12 D	1	2	0654	3.54	9.00	2.70	65	
CAPRI-G	02	0915 E	0920 D		S15	E65	4445	5 D	1	2			2.00			
CAPRI-G	02	0922	1025		N32	W34	4435	3	1	2			4.00			
CAPRI-G	02	0928	0935		S23	E64	4445	7	1	2			3.00			
CAPRI-G	03	1005 E	1250		S17	E63	4445	165 D	3	1			15.00			S-SWF
PIRCULI	03	1007 E	1109	1021	S19	E61	4445	62 D	3	3	1021	13.27	31.00			
CLIMAX	03	1812	1832 D	1825	S21	E70	4445	20 D	1		1825	2.50				
ALMA-ATA	04	0514 E	0806 D	0530	S16	W38	4442	172 D	2	2	0530	2.52	7.70		81	
ALMA-ATA	04	0515 E	0805 D	0530	S12	W38	4442	170 D	1&	2	0530	1.26	2.10		84	
PIRCULI	04	0900 E	0910 D	0903	S25	E37	4445	10 D	1	2	0903	5.31	9.10			
CAPRI-G	04	1000 E	1007 D		S18	E32	4445	7 D	1	1			2.00			
CAPRI-G	04	1225 E	1228		S18	E30	4445	3 D	1	1			2.00			
CAPRI-G	04	1228	1235 D		N24	E25	4443	7 D	1	1			2.00			
CAPRI-G	04	1302 E	1310		S26	W39	4441	8 D	1	2			3.00			
CAPRI-G	04	1318 E	1325 D		S26	W39	4441	7 D	1	2			5.00			
CAPRI-G	04	1610 E	1615 D		S24	E40	4445	5 D	1	2			4.00			
ALMA-ATA	05	0500 E	0525 D	0501	S05	E30	4445	25 D	2	3	0501	1.57	8.90		85	
ALMA-ATA	05	0500 E	0526 D	0501	S06	E32	4445	26 D	1&	3	0501	1.21	4.20		87	
ALMA-ATA	05	0500 E	0632 D	0540	S02	W46	4442	92 D	3	3	0540	2.56	34.40		82	
ALMA-ATA	05	0503 E	0640 D	0609	S02	E38	4445	97 D	3	3	0609	1.89	28.70		95	
CAPRI-G	05	0800 E	0807 D		S12	W48	4442	7 D	1	1			3.00			
CAPRI-G	05	0900 E	0912 D		S19	E27	4445	12 D	1	2			6.00			
KRASNYA	05	0918 E	0924 D	0921 U	S18	E29	4445	6 D	1&	2	0921	8.01	4.25		54	
KRASNYA	05	0918 E	0938 D	0921 U	N31	W60	4435	20 D	1	2	0921	1.70	2.70		55	
KRASNYA	05	0918 E	0943 D	0927 U	S10	W49	4442	25 D	1	2	0927	2.88	2.24		61	
KIEV	05	1002	1008	1003	S20	E26	4445	6	1&	2	1003	2.00	2.30		90	
CAPRI-G	05	1002 E	1020 D		S20	E25	4445	18 D	1	2			6.00			
KRASNYA	05	1015 E	1029	1017	S18	E28	4445	14 D	1&	2	1017	8.34	1.51		81	
KRASNYA	05	1015 E	1033	1017	N24	E09	4443	18 D	1	2	1017	2.43	1.51		57	
CAPRI-G	05	1313	1325		S12	W48	4442	12	1	2			3.00			
CAPRI-G	05	1313 E	1332		S18	E28	4445	19 D	2	2			7.00			
CLIMAX	05	2311 E	2341	2328	S09	E15	4445	31 D	1		2328	4.90				
CAPRI-G	06	0838	0905		S21	E15	4445	27	1	3			4.00			
CAPRI-G	06	0843	0856		S12	W61	4442	13	1	3			3.00			
CAPRI-G	06	0930 E	0940 D		N23	W03	4443	10 D	1	3			4.00			
CAPRI-G	06	0930 E	0952 D		S23	E12	4445	22 D	1	3			4.00			
CLIMAX	06	2018	2030 D		S22	E13	4445	12 D	1		2023	5.00				
SYDNEY	07	0521	0546	0527	N20	E14	4446	25	1	1	0527	3.00	3.00			
ABASTUMANI	07	0735 E	0740 D		N09	E74	4449	5 D	1	3	0739	1.05	4.00			
CAPRI-G	07	0930 E	1006		S19	E02	4445	36 D	1	2			4.00			
CAPRI-G	07	1020 E	1027 D		N02	E70	4449	7 D	2	3			7.00			

SOLAR FLARES

MARCH 1958

OBSERVATORY	DATE MAR 1958	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Ha	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MOSCOW-G	07	1035 E	1224 D	1110	N08	E78	4449	109 D	2b	2	1109	7.13	33.10	3.16	370	S-SWF
NEDERHORST	07	1105	1200 D		N10	E72	4449	55 D	2	2						
KRASNYA	07	1130 E	1149	1135 U	N10	E71	4449	19 D	1b	2	1135	2.52	5.10		96	
CAPRI-G	07	1424 E	1427 D		N24	W16	4443	3 D	1	2			4.00			
CAPRI-G	07	1443 E	1447 D		S12	W73	4442	4 D	1	1			6.00			
MCMATH	07	1815	1835		S18	W04	4445	20	1	2	1816	2.60	2.65			
VOROSHILOV	08	0049	0052	0050	S06	W84	4442	3	1b	2	0050	.70	3.50		148	
TASHKENT	08	0650 E	0709 D		S18	W27	4445	19 D	1b	1	0651	9.91	10.00	2.00	65	
TASHKENT	08	0740	0750		S18	W17	4445	10	1	1	0740	2.12	2.00	3.10	75	
CAPRI-G	08	0835 E	0840 D		N32	W16	4444	5 D	1	1			3.00			
MCMATH	08	1616	1705	1624	N10	E55	4449	49	1	2	1622	1.95	3.60			Slow S-SWF
MCMATH	08	1720	1748	1725	N34	W17	4444	28	2	2	1726	5.20	7.05			S-SWF
MCMATH	08	1730	1830		N25	W35	4443	60	1	2	1749	1.62	2.30			
MCMATH	08	1800	1812		N24	W44	4443	12	1	2	1803	1.96	3.40			
MCMATH	08	1802	1840	1805	N10	E54	4449	38	1	2	1805	1.94	3.60			S-SWF
CLIMAX	08	2159	2249		N05	E54	4449	50	1		2209	2.20				
CLIMAX	08	2336	2348 D	2340	N17	E47	4449	12 D	1		2340	2.20				
VOROSHILOV	09	0116	0220	0137	N12	E47	4449	64	1b	2	0137	1.57	2.50		120	S-SWF
VOROSHILOV	09	0151	0155	0152	N17	E80	4462	4	1b	2	0152	.70	3.50		132	
TASHKENT	09	0741	0748		N16	E59	4453	7	1	3	0742	5.66	14.00	2.10	65	
SIMEIZ	09	0748	0800 D	0749	N10	E44	4449	12 D	1b	2	0750	3.05	4.60	4.50	56	
TASHKENT	09	0750	0800		N10	E45	4449	10	1	3	0751	4.96	8.00	3.40	85	
KHARKOV	10	0117 E	1125		N35	W37	4444	18 D	1b	2	1115	2.00	3.00			
KYOTO	10	0420	0432 D		N32	W38	4444	12 D	1		0420			2.52	100	G-SWF
KYOTO	10	0440 E	0458 D		N32	W36	4444	18 D	1		0441			2.34	100	
KYOTO	10	0451 E			N10	E35	4453		1		0451					
TASHKENT	10	0523	0538		S21	W36	4445	15	1	1	0525	2.48	3.00	2.40	65	
KYOTO	10	0525 E	0534 D		S18	W36	4445	9 D	1		0525				100	
KYOTO	10	0615 E	0628 D		N13	E48	4455	13 D	1		0617			2.00	100	
KYOTO	10	0630 E	0732 D	0715	N32	W36	4444	62 D	2b		0715			3.36	200	Slow S-SWF
KYOTO	10	0735 E	0740		N14	E47	4453	5 D	1		0735				100	
KIEV*	10	1103 E	1108 D	1105	N32	W44	4444	5 D	1	2		3.50	6.40			
KIEV	10	1104	1109	1107	N34	W45	4444	5	2	2	1107	4.28	8.50		90	
NEDERHORST	10	1320	1331 D		N10	E30	4449	11 D	1b	2						
UTRECHT	10	1321 E	1331		N08	E32	4449	10 D	1b	2						G-SWF
NEDERHORST	10	1335 E	1345 D		N35	W37	4444	10 D	2	2						
UTRECHT	10	1340 E			N33	W20	4444		2	2						
CLIMAX	10	1955	2006	2001	N34	W46	4444	11	1		2001	2.10				
CLIMAX	10	2024	2128	2040	S11	W50	4445	64	2		2040	7.00				G-SWF
ALMA-ATA	11	0920 E	0949 D	0929	N20	E18	4453	29 D	1b	1	0929	1.02	2.20		102	
KYOTO	12	0140	0220 D	0152	N08	E10	4453	40 D	2b		0152	18.60		2.68	150	
KYOTO	12	0516 E	0557 D		N12	E90	4456		□		0526				100	
GOOD HOPE	12	1416	1512 D	1442	S18	W68	4445	56 D	2		1445	4.00	9.40			Slow S-SWF
KYOTO	13	0030 E	0044 D		N11	E90	4456	14 D	1		0035				80	
MCMATH	13	1814 E	1825 D		N15	W07	4453	11	1	2	1818	2.66	2.87			
MCMATH	13	1854	1906	1858	N15	W07	4453	12	1	2	1857	2.86	3.09			
KYOTO	13	2353	2356 D		N12	W06	4453	3 D	1		2353			2.52	120	

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KIEV	14	0850 E	1152	0927	S03	W22	4458	182 D	1b	3	0927	4.28	4.80		80	
KIEV	14	1012	1035	1017	S13	W31	4458	23	1	3	1017	3.42	4.10		70	
GOOD HOPE	14	1454	1539 D		S20	W85	4447	45 D	3		1508	10.00				Slow S-SWF
MCMATH	14	1815 E	1820 D		N12	W17	4453	5 D	1	1	1819	2.96	3.26			
CAPRI-G	15	0820 E	0845 D		N11	W25	4453	25 D	1	2			3.00			
CAPRI-G	16	1402 E	1407 D	1403	N12	E24	4456	5 D	1	2	1403		5.00			
CAPRI-G	16	1513 E	1518 D	1513	N14	E24	4456	5 D	1	2	1513		3.00			
TASHKENT	17	0444	0514	0447	N10	E18	4456	30	1b	3	0447	6.19	7.00			
PIRCULI	17	1015 E		1015	S26	E20	4459		2	2	1045	9.20	20.00			
CAPRI-G	17	1112 E	1122 D		N11	E12	4456	10 D	1	1			5.00			
CAPRI-G	17	1112 E	1200 D		N20	E70	4465	48 D	1	1			3.00			
CAPRI-G	17	1216	1245 D		N37	E31	4460	29 D	1b	1			5.00			
TASHKENT	18	0459 E	0520 D		N20	E65	4465	21 D	1	2	0501	3.19	8.00	2.00	60	
TASHKENT	19	0619 E	0722		S24	E20	4459	63 D	1b	3	0621	8.50	10.00	2.00	80	
KRASNYA	19	0736 E	0748 D	0745 U	N21	E46	4465	12 D	1	1	0745	8.70	7.40		74	
MOSCOW-G	19	0945 E	1201 D	1106	N11	W17	4456	136 D	1b	1	1110	7.64	8.20	2.60	150	
GOOD HOPE	19	1020	1200 D	1030	N11	W10	4456	100 D	1			3.00	3.20			
SCHAUINS	19	1032 E	1140		N20	W13	4456	8 D	1	2			5.00	2.10		
CAPRI-G	19	1055 E	1215		N14	W14	4456	80 D	2	2			11.00			
CAPRI-G	19	1515 E	1535 D		N22	E52	4465	20 D	1	2			3.00			
MCMATH	19	1718	1732 D		N22	E37	4465	14 D	1	1	1729	2.65	3.91			Slow S-SWF
MCMATH	19	1911 E	1927 D		N15	W16	4456	16 D	1	1	1915	2.90	3.26			
KYOTO	20	0202	0212		N22	E35	4465	10	1		0202				100	
KRASNYA	20	0832 E	0909 D	0832 U	N20	E31	4465	37 D	1	1	0832	4.02	2.65		78	
NEDERHORST	20	1305	1320 D		N23	E29	4465	15 D	2	2						G-SWF
CLIMAX	20	1448	1540	1457	N22	E26	4465	52	1		1457	4.20				S-SWF
MCMATH	20	1448	1545	1457	N23	E26	4465	57	2	2	1457	5.20	6.51			
MCMATH	20	1734 E	1814		N22	E25	4465	40 D	1	2	1747	2.92	3.80			
MCMATH	20	1822 E	1835 D	1830	N22	E25	4465	13 D	1	2	1828	2.60	3.40			
CLIMAX	20	2037	2118	2047	N21	E27	4465	41	2		2047	6.50				S-SWF
VOROSHILOV	21	0010	0016	0012	N24	E18	4465	6	1b	2	0012	2.70	3.40		96	
VOROSHILOV	21	0010	0045	0017	N17	W37	4456	35	1b	2	0017	3.26	4.50		85	
KIEV	21	1005	1100	1030	N22	E21	4465	55	1	2	1030	1.71	2.00		70	
KIEV	21	1015	1046	1022	N22	E16	4465	31	1b	2	1022	4.20	4.60		130	S-SWF
KIEV	21	1052	1141	1054	N21	E12	4465	49	1	2	1054	.85	1.00		80	
CAPRI-G	21	1140 E	1225		N22	E14	4465	45 D	2	1			10.00			
CAPRI-G	21	1340 E	1402 D		N26	E38	4469	12 D	2	1			8.00			
CAPRI-G	21	1425 E	1432 D		N22	E13	4465	7 D	1b	1			7.00			S-SWF
CAPRI-G	21	1425 E	1432 D		N18	W44	4456	7 D	1	1			4.00			
CAPRI-G	21	1545 E	1557 D		N22	E12	4465	12 D	1	1			4.00			
CLIMAX	21	1711 E	1723		S15	E90	4476	12 D	1		1713	2.10				Slow S-SWF
MCMATH	21	1908 E	1934		N23	E14	4465	16 D	1b	2	1910	3.24	3.80			Slow S-SWF
MCMATH	21	1944 E	2010		N23	E10	4465	26 D	1b	2	1949	3.24	3.95			
VOROSHILOV	22	0047			N21	E07	4465		1	2	0107	2.18	2.60		72	G-SWF
CAPRI-G	22	0812 E	0820 D		N18	W63	4456	8 D	1	3			4.00			

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CAPRI-G	22	1125	1210	1137	N22	E05	4465	45	2	3	1137		9.00			
KHARKOV	22	1127	1155	1136	N22	E04	4465	28	1	2	1134	5.50	6.00	1.80		G-SWF
MOSCOW-G	22	1127 E	1157 D	1139	N20	E04	4465	30 D	1&	1	1140	5.10	6.00	2.90	130	
CAPRI-G	22	1200 E	1213		S22	E82	4478	13 D	1&	3			5.00			
CAPRI-G	22	1208	1240 D		S13	E85	4476	32 D	1	3			3.00			
KHARKOV	22	1209	1311	1219	S13	E85	4476	62	1&	1	1215	6.60	34.00			
MCMATH	22	1234	1243	1238	N24	E25	4469	9	1	2	1237	1.64	2.13			S-SWF
KIEV	22	1244 E	1257 D	1252	S14	E90	4476	13 D	1	1	1052	.85	6.50		50	
MCMATH	22	1804	2119 D	1815	N24	E25	4469	195 D	1	2	1820	3.24	4.23			G-SWF
MCMATH	22	1942	2000		N22	E00	4465	18	1	2	1946	3.27	3.65			
KYOTO	22	2310 E	2321 D	2314	N25	E20	4469	11 D	1&		2314	3.10		2.34	130	
KYOTO	22	2352 E	0000 D		S14	E90			□		2352				100	Slow S-SWF
KYOTO	22	2355 E	0026 D	0010	S11	E85	4476	31 D	1		0010	2.30		3.18	140	
KYOTO	23	0010 E	0028 D	0014	S13	E85	4476	18 D	1		0014	4.60			110	
TASHKENT	23	0530 E	0543 D		N22	E53	4474	13 D	1	1	0533	3.89	7.00	2.00	65	
KYOTO	23	0535 E	0546 D	0538	N22	E55	4474	11 D	1		0538	2.90		2.52	100	
TASHKENT	23	0542	0553 D	0542	S10	E75	4476	11 D	1	1	0542	1.41	5.00			
PIRCULI	23	0752 E			S25	E80	4478		1	3	0752	5.31	27.00			
MOSCOW-G	23	0845 E	0858 D		N20	W65	4456	13 D	1	2	0848	1.01	3.10	3.10	100	S-SWF
KRASNYA	23	0947	1057	0958	S15	E80	4476	10	2&	1	0958	11.19	15.02		101	S-SWF
MOSCOW-G	23	0951 E	1210	1010	S25	E67	4479	139 D	3&	2	1011	17.83	47.00	7.50	210	
SCHAUINS	23	0958 E	1210		S14	E74	4476	132 D	3&	2			30.00	16.00		
KHARKOV	23	1000 E	1122	1033	S17	E80	4476	82 D	2&	2	1008	20.00	10.20			
CAPRI-G	23	1001	1245	1003	S14	E73	4476	44	3&	3	1012		30.00			
KIEV	23	1024 E	1238	1025	S13	E80	4476	14 D	3	3	1025	18.82	76.50		110	
MCMATH	23	1150 E	1445		S13	E77	4476	175 D	2	2	1158	2.92	11.30			
CAPRI-G	23	1156 E			S20	E85	4479		1	3			3.00			
NEDERHORST	23	1258	1415 D		S20	E88	4478	77 D	2	2						
NEDERHORST	23	1258	1415 D		S12	E90	4476	77 D	2	2						
KIEV	23	1329	1424 D	1415	S11	E90	4476	55 D	1&	3	1403	.86	6.50		50	
KIEV*	23	1405 E	1430		S11	E79	4476	25 D	2	3		2.86	11.00			
MCMATH	23	1717	1744		N23	E05	4469	27	1	2	1722	1.62	1.86			
MCMATH	23	1717	1744		N24	W05	4469	27	1	2	1722	1.95	2.30			
MCMATH	23	1741	1800	1746	N25	W07	4469	19	1	2	1746	1.95	2.34			
SYDNEY	24	0446 E	0525		N22	E38	4474	39 D	1	2	0455	3.00	4.00			
KHARKOV	24	0953	1017 D	0957	S19	E72	4478	24 D	1	2	1008	2.20	6.00	2.20		S-SWF
KIEV	24	1004	1129	1114	S16	E57	4476	85	1	2	1114	.90	1.50		110	
KHARKOV	24	1042	1056	1045	S25	E85	4478	14	1&	2	1049	4.40	18.00	2.40		
KIEV	24	1045 E	1054 D	1047	S21	E90	4478	9 D	2	2	1047	1.71	12.96		50	
NEDERHORST	24	1045	1055 D		N11	W90	4456	10 D	1	3						
KHARKOV	24	1110	1122	1113	S19	E58	4476	12	1	2	1117	2.20	5.00	2.00		
KHARKOV	24	1137	1155	1140	N21	W24	4465	18	1	2	1137	3.30	4.00	2.40		
KIEV	24	1138	1211	1145	N20	W30	4465	33	1	2	1145	.85	1.10		50	
CAPRI-G	25	0900 E	0908 D		S24	E68	4478	8 D	1	2			2.00			
SCHAUINS	25	1415 E			N20	W44	4465		1	1			3.00	1.50		
NEDERHORST	25	1415	1430 D		N20	W42	4465	15 D	1	2						
MOSCOW-G	25	1416 E	1434		N21	W41	4465	18 D	1	1	1425	2.55	4.10	2.10	120	
SCHAUINS	25	1457 E	1540 D		S14	E50	4476	43 D	1&	1			5.00	2.10		Slow S-SWF
NEDERHORST	25	1502	1600 D		S13	E46	4476	58 D	2	2						
CAPRI-G	25	1510 E	1522 D		S14	E48	4476	12 D	2	1			7.00			

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MCMATH	25	1518	1610		S15	E46	4476	52	1b	2	1552	2.90	4.10			
SYDNEY	26	0422	0437	0427	N38	W85	4460			2	0427	.50				
KRASNYA	26	0738 E	0849 D	0836 U	N25	E15	4475	71 D	1	2	0836	4.35	2.63		58	
KHARKOV	26	0746 E	0845 D		N22	E12	4475	59 D	1b	2	0746	1.10	1.40			
KRASNYA	26	0849	0934 D	0910 U	S22	E51	4478	44 D	1	2	0910	3.48	2.12		56	
MOSCOW-G	26	0907 E	0942 D	0919	S23	E51	4478	35 D	1b	2	0921	6.11	10.10	2.10	110	
KHARKOV	26	1027	1038 D		S08	E12	4476	11 D	1b	2	1035	1.00	1.00			
KHARKOV	26	1028	1038 D		S26	E53	4478	10 D	1b	2	1035	2.00	2.00			
GOOD HOPE	26	1205	1225	1210	S04	E10	4476	20	1		1210	4.50	4.60			
KHARKOV	26	1206	1217		S08	E11	4476	11	1b	2	1208	2.00	1.00	2.80		
KIEV	26	1206 E	1218	1209	N03	E09	4476	12 D	1b	3	1209	4.28	4.50		90	
MCMATH	26	1206	1235	1210	S06	E10	4476	29	2	2	1210	5.85	5.90			
MCMATH	26	1255	1335	1259	S16	E35	4476	40	1	2	1259	5.16	6.36			
GOOD HOPE	26	1255	1354	1310	S14	E35	4476	59	1		1310	3.50	4.20			
MCMATH	26	1307	1320		S14	E90	4480	13	□	2						
KIEV	26	1320 E	1338 D	1321	S17	E33	4476	18 D	1b	3	1321	2.56	3.10		90	
MCMATH	26	1327	1355		S14	E90	4480	28	□	2						
MCMATH	26	1442	1535		S14	E90	4480		□	1						
MCMATH	26	1724	1755		S15	E90	4480		□	2						
MCMATH	26	1742	1805	1745	S17	E32	4476	23	1	2	1745	4.85	5.80			
MCMATH	26	1755	1805	1758	S06	E07	4476	10	1	2	1758	2.60	2.62			
MCMATH	26	1815	1835	1820	N15	W44	4467	10	1	2	1820	2.28	3.50			
MCMATH	26	1815	1850	1826	S20	E30	4476	35	1	2	1825	2.92	3.44			
MCMATH	26	1907	1920		S15	E90	4480		□	2						
MCMATH	26	2047 E	2055 D		S06	E33	4476	8 D	1	1	2048	1.95	2.30			
SYDNEY	26	2326	0020	2340	S21	E33	4476	54	2	2	2340	8.00	10.00			G-SWF
SCHAUINS	27	0837 E	0842		N23	W53	4465	5 D	1	1			2.00	3.20		
SCHAUINS	27	0912 E	0918		S23	E44	4478	6 D	1	1			2.00	2.00		
NEDERHORST	27	1201	1210 D		N23	W57	4465	9 D	1	3						S-SWF
GOOD HOPE	27	1204 E	1215		N23	W60	4465	11 D	1			1.50	3.30			
GOOD HOPE	27	1318	1347	1322	S15	E25	4476	29	1		1322	3.00	3.30			
GOOD HOPE	27	1402	1422 D	1410	N28	W68	4465	20 D	1		1410	1.50	4.40			
CLIMAX	27	1534	1701	1549	S13	E21	4476	87	2		1549	6.40				
CLIMAX	27	1541	1706	1604	S21	E28	4476	85	1		1604	4.60				S-SWF
CAPRI-G	27	1550 E	1610 D		S16	E26	4476	20 D	2b	1			12.00			
CLIMAX	27	1702	1720	1704	S23	E40	4478	18	1		1704	4.20				S-SWF
CLIMAX	27	1956	2007	2001	S06	W06	4476	11	1		2001	2.20				
CLIMAX	27	2148	2202	2157	N30	W80	4465	14	1		2157	2.50				
SYDNEY	28	0414	0428	0421	N24	W85	4465			2	0421	4.00				S-SWF
SYDNEY	28	0455	0508	0502	N26	W84	4465	13	1	2	0502	2.00	5.00			Slow S-SWF
KRASNYA	28	0629 E	0634	0632 U	S07	W08	4476	5 D	1		0632	4.44	2.30		78	
SCHAUINS	28	0809	0818		S24	E31	4478	9	1	2			3.00	2.50		
GOOD HOPE	28	0809	0839	0812	S23	E30	4478	30	1		0812	3.50	4.20			
GOOD HOPE	28	0843	0933	0846	S23	E29	4478	50	1		0847	2.00	2.30			
GOOD HOPE	28	0916	0944	0920	N23	W90	4465	28	1		0920	.50				
SCHAUINS	28	0921 E	0928		N21	W88	4465	7 D	1	2			3.00	2.50		
MOSCOW-G	28	0936 E	1104 D	1004	S13	E17	4476	88 D	1	1	1003	2.04	2.20	2.30	120	
GOOD HOPE	28	1000	1015		N23	W90	4465	15	2							S-SWF
SCHAUINS	28	1004 E	1028 D		N20	W90	4465	24 D	1	2				4.30		
CAPRI-G	28	1030	1048 D		S22	E25	4478	18 D	2	2			10.00			

SOLAR FLARES

MARCH 1958

OBSERVATORY	DATE MAR 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
GOOD HOPE	28	1033	1152	1037	S22	E27	4478	79	2		1037	6.50	7.50			S-SWF
MOSCOW-G	28	1034 E	1130		S22	E30	4478	56 D	1&	1	1059	7.64	9.30	2.40	370	
GOOD HOPE	28	1146	1200	1148	N28	W58	4469	14	1		1149	1.50	3.30			
GOOD HOPE	28	1150	1330	1215	S13	E10	4476	100	1		1215	3.00	3.10			S-SWF
GOOD HOPE	28	1316	1333	1319	N28	W90	4465	17	1							
CAPRI-G	28	1515 E	1520 D		N22	W80	4465	5 D	1	3			5.00			
CAPRI-G	28	1545 E	1610 D		S03	W10	4476	25 D	1	1			4.00			
MCMATH	28	1551 E	1610		S06	W12	4476	19 D	1	1	1554	2.59	2.64			Slow S-SWF
MCMATH	28	1703	1752 D		S15	E08	4476	41	2&	1	1719	8.76	9.12			S-SWF
MCMATH	28	1738 E	1752 D		N25	W25	4474	14 D	1	1	1745	3.90	4.75			
GOOD HOPE	29	0730	0755	0738	N29	W65	4469	25	2		0738	2.50	5.90			
KRASNYA	29	0755 E	0802	0758 U	S19	E15	4478	7 D	1&		0758	.87	.48		50	
KRASNYA	29	0758	0805	0801	N28	W71	4469	7	1		0801	1.14	2.36		49	S-SWF
GOOD HOPE	29	0758	0820	0811	N30	W70	4469	22	1		0811	1.50	4.90			
GOOD HOPE	29	0912	1024 D	0937	N23	W30	4474	72 D	1&		0937	3.50	4.60			
MOSCOW-G	29	0919 E	1039 D	0938	N22	W27	4474	80 D	1	2	0938	3.57	4.70	2.70	140	
KRASNYA	29	0925	1013 D	0939 U	N23	W30	4474	48 D	1		0939	5.22	2.20		57	
CAPRI-G	29	1000 E	1025		N20	W34	4474	25 D	1	1			6.00			
PIRCULI	29	1030 E	1030 D		N30	W20	4475		2	2	1032	9.73	14.00			
CAPRI-G	29	1025	1035 D		S06	W04	4476	10 D	1	1			4.00			
PIRCULI	29	1034 E	1041 D	1036	S05	W02	4476	7 D	1	2	1036	4.42	6.00			
CAPRI-G	29	1210 E	1217 D		S21	E13	4478	7 D	1	1			3.00			
MCMATH	29	1224 E	1235 D		S23	E15	4478	11 D	1	3	1225	1.91	2.06			S-SWF
MCMATH	29	1339	1400	1343	N35	E75	4484	21	2	3	1343	1.95	11.70			S-SWF
NEDERHORST	29	1343	1407		N32	E78	4484	24	2	2						
MCMATH	29	1353	1410	1357	S19	E85	4483	17	1	3	1357	1.62	9.75			
NEDERHORST	29	1356	1407		S17	E86	4483	11	1	2						
MCMATH	29	1408	1416	1410	S16	E55	4480	8	1	3	1410	1.62	2.81			
MCMATH	29	1447	1453	1449	N27	W70	4469	7	1	3	1449	1.30	6.24			S-SWF
MCMATH	29	1550	1650	1608	S17	W11	4476	60	1	3	1608	3.90	4.02			
MCMATH	29	1748	1815	1800	S06	W33	4476	27	1	3	1800	2.92	3.50			
MCMATH	29	1819	1915	1824	S24	E12	4478	56	2	3	1824	6.80	7.20			S-SWF
SYDNEY	30	0045 E	0123	0108	N34	E81	4484	38 D	2	1	0108	2.00	8.00			
SYDNEY	30	0130			S08	W13	4476		1	1	0156	2.00	2.00			
KYOTO	30	0150	0232	0220	S07	W10	4476	42	1&		0220	5.60		2.39	120	
SYDNEY	30	0150	0228	0155	N34	E81	4484	38	1	1	0155	.75	3.00			
KYOTO	30	0159	0205 D	0159	S19	W00	4478	6 D	1&		0159	2.90		2.39	150	
SYDNEY	30	0332	0400	0346	N34	E80	4484	28	1	1	0346	.75	3.00			
TASHKENT	30	0400	0420	0404	S08	W07	4476	20	1	3	0404	2.03	2.00	2.80	85	
SYDNEY	30	0407	0440 D	0423	N34	E80	4484	33 D	1	1	0423	.75	3.00			
TASHKENT	30	0452	0513	0502	N33	E70	4484	21	1&	3	0500	2.56	10.00	5.00	95	
SYDNEY	30	0454 E	0502 D	0501	N34	E79	4484	8 D	2	1	0501	3.00	12.00			S-SWF
SCHAUINS	30	0814 E	1001		N34	E63	4484	107 D	2	2			2.00	12.00		
SCHAUINS	30	0816	0835		S15	W14	4476	19	1	2			1.00	2.70		
MOSCOW-G	30	0817 E	1016 D	0846	N30	E60	4484	119 D	2&	2	0846	3.06	8.90	7.50	130	
KRASNYA	30	0843	0846 D	0844	N33	E65	4484	3 D	2		0844	2.91	5.40		110	S-SWF
KRASNYA	30	0903	0914 D	0903	N35	E61	4484	11 D	1		0903	1.74	2.53		52	
SCHAUINS	30	0915 E	1330		S14	W21	4476	255 D	2	2			8.00	2.90		
KRASNYA	30	0917 E	0935	0920	S22	W08	4478	18 D	1&		0920	14.55	7.80		60	
SCHAUINS	30	0920 E	1057		S22	W08	4478	97 D	1	2			4.00	1.70		
KRASNYA	30	0945	1015	1008 U	S13	W16	4476	30	1&		1008	2.01	1.08		73	

SOLAR FLARES

MARCH 1958

OBSERVATORY	DATE MAR 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
KRASNYA	30	0945	1022 D	1000	S18	W21	4476	37 D	1b		1000	3.48	2.18		101	S-SWF
MOSCOW-G	30	0946 E	1034 D	1012	S25	W29	4476	48 D	1	2	1012	4.08	5.00	3.00	140	
CAPRI-G	30	1115 E	1147 D		S14	W21	4476	32 D	2	1			11.00			
CAPRI-G	30	1537 E	1600 D		N36	E64	4484	23 D	1	2			4.00			
CAPRI-G	30	1600 E	1622 D		S07	W18	4476	22 D	1	1			2.00			S-SWF
CLIMAX	30	1615	1623	1618	N36	E66	4484	8	1		1618	2.60				
MCMATH	30	1616	1626	1618	N35	E60	4484	10	1	2	1618	1.30	3.80			
MCMATH	30	1700	1745 D	1720 O	S17	W25	4476	45 D	1b	2	1720	6.50	7.15			
CLIMAX	30	1739	1820	1750	S16	E36	4480	41	1		1750	4.80				G-SWF
MCMATH	30	1742	1804 D	1755	S16	E36	4480	22 D	1	2	1755	3.25	3.96			
CLIMAX	30	1748	1758	1754	N35	E64	4484	10	1		1754	2.20				
CLIMAX	30	1756	1819	1810	S08	W18	4476	23	1		1810	2.50				
MCMATH	30	1800	1804 D		S08	W19	4476	4 D	1	2	1804	3.90	4.13			
CLIMAX	30	1830	1842	1833	N37	E66	4484	12	1		1833	2.10				
CLIMAX	30	2009	2108	2016	N20	W50	4474	59	2		2016	5.80				
CLIMAX	30	2057	2101	2058	S08	W16	4476	11	1		2058	2.50				
CLIMAX	30	2153	2210	2200	N36	E61	4484	17	1		2200	2.80				
VOROSHILOV	30	2235 E	2247	2236	N36	E60	4484	12 D	1	2	2236	.87	2.30		70	
VOROSHILOV	30	2247	2249	2247	N24	W70	4469	2 D	1b	2	2247	.96	3.40		88	
VOROSHILOV	30	2259	2310	2303	N37	E55	4484	11	1b	2	2303	1.74	4.80		84	
VOROSHILOV	30	2300	2344	2309	S08	W22	4476	44	1b	2	2309	1.84	2.10		112	Slow S-SWF
VOROSHILOV	30	2309	0037		S17	W26	4476	88	2	2	0019	4.70	6.10		123	
SYDNEY	30	2346	2353	2349	S11	W32	4476	7	1	1	2349	3.00	3.00			
VOROSHILOV	30	2348	2352 D	2349	S11	W30	4476	4 D	1	2	2349	1.74	2.10		68	
SYDNEY	31	0009	0018	0008	S19	W19	4476	9	2	1	0008	5.00	6.00			G-SWF
VOROSHILOV	31	0019 E	0035		S24	W15	4478	16 D	1b	2	0019	2.61	2.80		84	
SYDNEY	31	0025	0048	0032	N37	E57	4484	23	2	1	0032	3.00	7.00			
VOROSHILOV	31	0028 E	0040	0032	N38	E59	4484	12 D	2	2	0032	2.61	7.10		113	
SYDNEY	31	0038	0130 D		S10	W23	4476	52 D	1	1	0102	4.00	5.00			
VOROSHILOV	31	0046 E		0052	S11	W25	4476		2	2	0052	4.90	5.20		123	S-SWF
KYOTO	31	0051	0110 D	0051	S07	W23	4476	19 D	2		0051				200	
SYDNEY	31	0126	0132 D		N23	W75	4469	6 D	1	1	0130	.75	2.00			
ALMA-ATA	31	0527 E	0648	0617	N15	E22	4487	81 D	1	2	0616	1.42	3.70		72	
KYOTO	31	0535	0542 D		N22	W78	4469	7 D	1		0535				100	
ALMA-ATA	31	0605	0708 D	0628	S13	W08	4478	63 D	1b	2	0629	1.15	3.50		81	
KYOTO	31	0615	0632 D		N07	E23	4487	17 D	1		0615				100	
ALMA-ATA	31	0615	0652	0622	S04	W29	4476	37	2	2	0622	2.21	11.50		83	
ALMA-ATA	31	0616	0625	0623	N44	E58	4484	9	1b	2	0623	1.10	2.90		97	
MOSCOW-G	31	0643 E	0733 D		N08	E20	4487	50 D	1b	1	0722	2.04	5.70	1.70	110	
ALMA-ATA	31	0622	0656	0650	N36	W75	4469	34	2	1	0649	1.20	5.80		115	
MOSCOW-G	31	0702 E	0729 D		N36	E58	4484	27 D	1b	1	0704	2.04	5.70	2.00	110	
MOSCOW-G	31	0707 E	0833 D		S11	W29	4476	86 D	1b	1	0709	5.10	6.00	2.70	150	
MOSCOW-G	31	0744 E	0931		S20	E31	4480	107 D	1	1	0913	3.06	3.70	1.80	120	
GOOD HOPE	31	0756	0825	0800	S10	W30	4476	29	1		0800	2.50	2.90			Slow S-SWF
KRASNYA	31	0759 E	0816	0801 O	S13	W32	4476	17 D	1b		0801	4.89	3.02		82	
KRASNYA	31	0826 E	0836	0836 O	N24	W80	4469	10 D	1b		0836	2.01	7.50		58	
KRASNYA	31	0859	0912	0902	S22	E31	4480	13	1		0902	2.61	1.58		86	
MOSCOW-G	31	1016 E	1054 D		N17	E68	4485	38 D	1	1	1020	1.53	4.90	2.20	110	
CAPRI-G	31	1058 E	1150 D		S08	W23	4476	52 D	1	3			3.00			
GOOD HOPE	31	1101	1122	1114	S04	W27	4476	21	1		1114	2.00	2.20			
GOOD HOPE	31	1215	1232	1223	S08	W30	4476	17	1		1223	2.00	2.30			
MCMATH	31	1219	1230	1224	S10	W30	4476	11	1	2	1224	3.90	4.60			

SOLAR FLARES

MARCH 1958

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
					APPROX.		McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
	MAR 1958	START	END	MAX. PHASE	LAT.	MER. DIST.										
MCMATH	31	1323	1435 D		S14	W32	4476	25	1	2	1335	1.97	2.31			
MCMATH	31	1858	1920	1907	S25	W22	4478	22	1	2	1907	3.56	4.00			
MCMATH	31	1935	1958	1939	S13	W42	4476	23	1	2	1939	1.63	2.15			Slow S-SWF

COMMERCE - STANDARDS - BOULDER

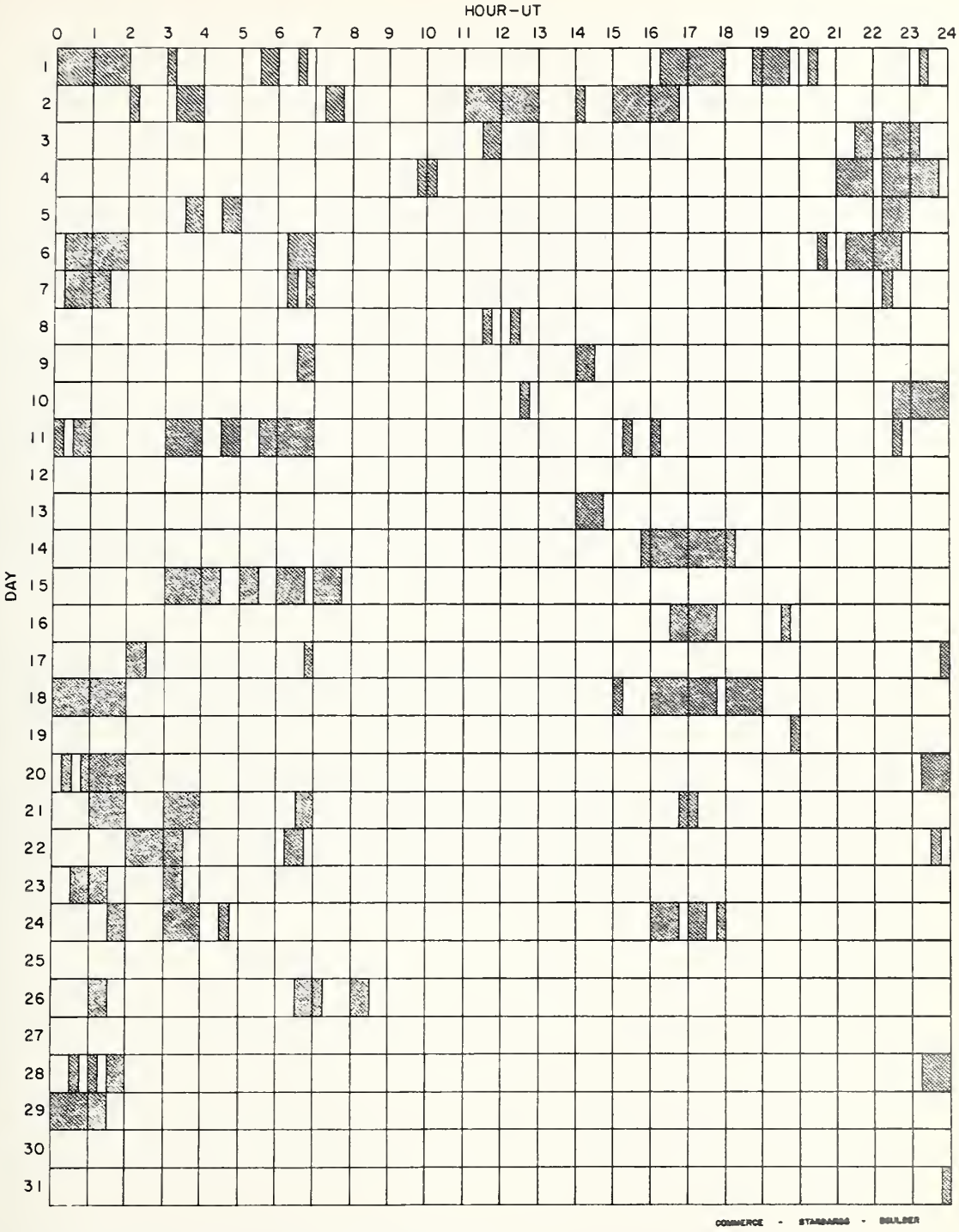
CAPRI G	ANACAPRI - GERMAN
CAPRI S	ANACAPRI - SWEDISH
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV*	KIEV UNIVERSITY
KODAIKNL	KODAIKANAL
KRASNYA	KRASNYA PAKHRA
MOSCOW	NIZMIR
MOSCOW-G	MOSCOW - GAISH
R O EDIN	ROYAL OBSERVATORY, EDINBURGH
R O HERST	GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK	SACRAMENTO PEAK
SCHAUINS	SCHAUINSLAND
USNRL	UNITED STATES NAVAL RESEARCH LABORATORY

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

E - LESS THAN
D - GREATER THAN
U - APPROXIMATE
& - PLUS
\- MINUS
□ - NOT REPORTED

INTERVALS OF NO FLARE PATROL OBSERVATIONS

MARCH 1958



Times indicated are accurate to the nearest 15 minutes.

Stations included:

Abastumani
Alma Ata
Anacapri (Swedish)
Arcetri
Arosa
Athens
Capetown
Climax
Dunsink
Hawaii
Huancayo
Ikomasan
Kharkov
Kiev I, GAO
Kiev University
Kodaikanal
Krasnaya Pakhra
MaMath
Mitaka
Meudon
Moscow University
Nederhorst den Berg
Nizamiah
Ondrejov
Ottawa
Pirkuli
Royal Greenwich Observatory
Herstmonceux
Royal Observatory,
Edinburgh
Sacramento Peak
Simeis
Sydney
Tashkent
Uccle
Utrecht
U. S. Naval Research
Laboratory
Voroshilov
Zurich.

SOLAR FLARES

APRIL 1958

OBSERVATORY	DATE APR 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
VOROSHILOV	01	0054	0148 D	0059	S16	W40	4476	54 D	1	2	0059	2.78	3.75		64	
VOROSHILOV	01	0056	0150	0117	N35	E45	4484	54	1	2	0117	2.09	4.10		64	
UTRECHT	01	0838	0840		□			2	1	2						
MOSCOW-G	01	0944 E	0952 D		S10	W80	4476	8 D	1	2	0947	1.02	4.70	2.60	80	
MOSCOW-G	01	0957 E	1025 D	1005	S10	W52	4476	28 D	1	2	1005	3.06	4.90	3.60	130	
MOSCOW-G	01	1022 E	1104 D		N32	E32	4484	42 D	1	2	1024	2.04	3.30	3.70	100	G-SWF
TASHKENT	01	1050 E	1054 D		S15	W44	4476	4 D	1b	1		3.62	5.00			
MOSCOW-G	01	1052 E	1139 D	1100	S12	W43	4476	47 D	2	2	1100	7.64	10.50	4.20	150	S-SWF
MEUDON	01	1102 E	1200		S14	W40	4476	58 D	3-				45.00			
MEUDON	01	1634	1648		S14	W50	4476	14	1							S-SWF
TASHKENT	02	0430 E	0450	0434	S15	W61	4476	20 D	1	1		1.94	4.00			Slow S-SWF
MEUDON	02	0851	0930		N22	E40	4485	37	1b				6.00			
MOSCOW-G	02	0853 E	1009 D		N21	E40	4485	74 D	1b	2	0859	6.62	10.00	3.20	130	
ONDREJOV	02	0854 E	0904		N20	E36	4485	10 D	1b	3	0858			3.00		
ONDREJOV	02	0854 E	0912		S25	W47	4478	18 D	1	3	0856			2.40		
MOSCOW-G	02	0938 E	1201 D	1024	S14	E27	4483	143 D	1b	2	1026	5.61	6.50	2.10	220	
MOSCOW-G	02	0938 E	1201 D	1053	S14	E27	4483	143 D	1b	1	1049	5.61	6.50	2.10	300	
MOSCOW-G	02	0938 E	1201 D	1133	S14	E27	4483	143 D	1	1	1130	5.10	5.90	1.90	320	
MOSCOW-G	02	0938 E	1201 D	1142	S14	E27	4483	143 D	1	1	1141	5.10	5.90	1.70	200	
ONDREJOV	02	1015 E	1034		S17	E26	4483	19 D	1	3	1017			2.10		
ONDREJOV	02	1040	1059		S17	E26	4483	19	1	3	1041			2.00		
MOSCOW-G	02	1119 E	1143 D		N21	E31	4485	24 D	1b	1	1102	6.11	8.30	2.50	150	
MEUDON	02	1114 E	1120 D		S18	E30	4483	6 D	1							
ONDREJOV	02	1239	1249	1243	N32	E19	4484	10	1	3	1243			2.70		
ONDREJOV	02	1355 E	1405		N20	E36	4485	10 D	1	3	1359			2.40		
GOOD HOPE	02	1356	1420	1402	N20	E38	4485	24	1		1402	3.00	4.20			
MEUDON	02	1507	1600		N33	E25	4484	53	1				7.00			G-SWF
ONDREJOV	02	1516	1521		N32	E17	4484	5	1	3	1518			2.20		
ONDREJOV	02	1540	1617	1552	S16	E24	4483	37	1b	3	1552			2.90		S-SWF
MEUDON	02	1545	1620		S18	E25	4483	35	1							
MEUDON	02	1609	1618		N33	E20	4484	9	1b							S-SWF
ONDREJOV	02	1612 E	1620		N31	E18	4484	8 D	1	3	1612			4.10		
MEUDON	02	1642	1647 D		N22	E35	4485	5 D	1							
ONDREJOV	02	1643 E	1655 D	1652	N18	E28	4485	12 D	1b	2	1652			3.60		S-SWF
VOROSHILOV	02	2154 E	2305 D	2305	S17	E25	4483	71 D	1b	2	2305	1.74	2.00		90	
VOROSHILOV	02	2155	2256	2224	S09	W76	4476	61	2	2	2224	4.96	13.70		135	
VOROSHILOV	02	2204	0033 D	2209	N33	E20	4484	149 D	1	2	2209	3.31	4.80		76	
GOOD HOPE	03	0753	0840	0805	S23	E73	4494	47	1		0800	2.50	4.80			
ONDREJOV	03	0805 E	0809		N07	E72	4493	4 D	1b	3	0805			2.20		
ONDREJOV	03	0816 E	0822		N35	E18	4484	6 D	1	3	0817			2.60		
SIMEIZ	03	0817	0915	0825 U	N35	E18	4484	58	1b	2	0825	4.80	8.00	2.40	68	S-SWF
GOOD HOPE	03	0818	0915	0826	N36	E19	4484	57	2		0826	4.00	5.60			
ONDREJOV	03	0824	0836	0826	N33	E15	4484	12	1b	3	0826			2.90		
SIMEIZ	03	0819 E	0900 D	0824 U	S17	E17	4483	41 D	1	2		4.80	5.60		56	
MOSCOW-G	03	0854 E	1022 D	0915	S18	E12	4483	88 D	1b	1	0912	20.38	21.80	1.70	130	
ONDREJOV	03	0923	0937	0926	N32	E09	4484	14	1	3	0926			2.60		
MOSCOW-G	03	0924	0940	0930	N31	E10	4484	16	1b	1	0928	5.10	6.90	2.50	130	
GOOD HOPE	03	1019	1030	1023	S15	E20	4483	11	1		1023	2.00	2.20			
MOSCOW-G	03	1038 E	1212 D	1110	S18	E12	4483	94 D	1b	1	1117	20.38	22.40	1.30	150	
GOOD HOPE	03	1118	1140	1121	S22	W63	4478	22	1		1121	2.00	2.30			
GOOD HOPE	03	1237	1250 D	1240	N38	E14	4484	13 D	1		1240	2.00	2.40			

SOLAR FLARES

APRIL 1958

OBSERVATORY	DATE APR 1958	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Ha	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
ONDREJOV	03	1324 E	1347		S27	E60	4494	23 D	1	2	1329			2.10		
GOOD HOPE	03	1403	1437	1411	S14	E15	4483	34	2		1417	5.00	5.20			
ONDREJOV	03	1410 E	1425		S17	E12	4483	15 D	1	3	1411			2.20		
GOOD HOPE	03	1437	1458 D	1444	N36	E16	4484	21 D	1		1444	3.00	4.10			
ONDREJOV	03	1441 E	1457		N32	E14	4484	16 D	1	3	1446			2.30		Slow S-SWF
ONDREJOV	03	1534	1545		S17	E11	4483	11	1	3	1540			2.30		
KYOTO	04	0547	0602 D		N08	W29	4487	15 D	1&		0547	10.20		2.00	80	
KYOTO	04	0700	0723 D		N13	E67	4493	23 D	1		0700				100	
MOSCOW-G	04	0915 E	0932	0919	N21	E11	4485	17 D	1&	1	0922	5.10	6.00	2.10	130	
MOSCOW-G	04	0952 E	1059 D	1009	N09	W32	4487	67 D	1	1	1010	7.13	9.20	1.70	140	
MOSCOW-G	04	1127 E	1203 D	1138	N09	W32	4487	36 D	1	1	1138	3.57	4.60	2.50	220	
KYOTO	05	0420 E	0457 D	0433	N16	E40	4493	37 D	1		0433			2.85	80	
SIMEIZ	05	0612	0618	0613	S17	W04	4483	6	1&	3	0616	3.05	4.00	3.90	64	
SIMEIZ	05	0726	0815	0742	S20	W08	4483	49	1&	3	0742	6.54	7.70	2.60	72	
SIMEIZ	05	0802	0859	0806	N30	W07	4484	57	1&	3	0807	6.11	9.20	3.10	76	
MEUDON	05	0816 E	0905		N31	W08	4484	49 D	1&				13.00			S-SWF
ONDREJOV	05	1422 E	1444		S16	W41	4480	22 D	1&	2	1426			3.10		
ONDREJOV	05	1429 E	1441		N13	E38	4493	13 D	1	2	1429			2.40		
ONDREJOV	05	1447	1458	1448	N12	E53	4493	11	1&	3	1448			4.10		
SIMEIZ	06	0727 E	0800 D		N35	W27	4484	33 D	2	1	0730	12.22		2.70		
KHARKOV	06	0915 E	0940		N15	E25	4490	25 D	1	2	0925	2.20	2.00			
KHARKOV	06	0958	1049 D		N15	E24	4490	51 D	1	2	1016	2.20	2.00			
KHARKOV	06	1030	1047		S16	E36	4496	17	1	2	1037	4.40	5.00			
KHARKOV	06	1045	1135 D		N15	E23	4493	50 D	1	2		2.20	2.00			Slow S-SWF
KHARKOV	06	1140 E	1150 D		N12	E46	4493	10 D	1	2	1147	5.50	6.00			
GOOD HOPE	07	1010	1215	1025	N18	E34	4493	125	3		1110	17.00	22.20			S-SWF
KYOTO	08	0025	0057 D		N10	E19	4493	32 D	1		0025	4.30		2.68	90	
TASHKENT	08	0303	0408		S17	W44	4483	65	1	2		2.83	5.00			S-SWF
GOOD HOPE	08	0849	0915	0855	N34	W46	4484	26	1		0855	1.50	3.00			
ONDREJOV	08	0852 E	0904		N32	W43	4484	12 D	1	2	0855			2.90		
ONDREJOV	08	0923 E	0930		N08	W82	4487	7 D	1	1						
VOROSHILOV	08	2326	2349	2333	N17	W52	4485	23	1	2	2333	1.22	2.10		72	
VOROSHILOV	08	2322	0105	2353	N20	E68	4498	103	2	2	2353	3.31	9.10		95	
VOROSHILOV	09	0043	0104	0048	N10	W34	4490	21	1	2	0048	1.74	2.20		62	
ONDREJOV	09	0606 E	0613		N19	W55	4485	7 D	1	3	0608			2.70		
ONDREJOV	09	1501 E	1514 D		N12	W42	4490	13 D	1&	1						G-SWF
GOOD HOPE	10	1210	1247 D	1218	N11	W54	4490	37 D	1		1218	1.60	2.90			
VOROSHILOV	10	2216	2249	2224	N14	W90	4485	33	2	2	2224	3.57	4.10		208	S-SWF
VOROSHILOV	10	2333	2339 D	2339	N17	W82	4485	6 D	1	2	2339	.44	2.20		56	
GOOD HOPE	11	0824	0838	0826	N32	W90	4484	14	1							S-SWF
GOOD HOPE	11	1113	1137	1118	N13	W69	4490	24	2		1118	2.00	5.60			
ONDREJOV	12	0635 E	0637		N14	W36	4493	2 D	1	3	0635			2.10		
GOOD HOPE	12	1137	1203	1153	N12	W85	4490	26	2		1153	1.00	11.50			
KYOTO	13	2327	2339 D	2330	S22	E90	4508	12 D	1		2330				120	

SOLAR FLARES

APRIL 1958

OBSERVATORY	DATE APR 1958	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
ONDREJOV	14	0528 E	0538		N25	W53	4493	10 D	1	3	0529			2.60		
ONDREJOV	14	0836 E	0843		N23	W54	4493	7 D	1	3	0836			2.20		
GOOD HOPE	14	0904	0922	0908	N20	E68	4506	18	1		0908	.70	2.00			
ONDREJOV	14	0908 E	0922		N15	E58	4506	14 D	1	3	0916			2.50		
VOROSHILOV	14	2159 E	2255	2206	N12	W15	4498	56 D	1&	2	2206	4.52	5.10		68	
VOROSHILOV	14	2250	2309	2254	N12	W63	4493	19	1&	2	2254	.87	2.10		80	
VOROSHILOV	14	2308		0001	N24	W62	4493		1	2	0001	1.22	3.20		66	
GOOD HOPE	15	0704	0745	0708	S18	E78	4508	41	1		0708	1.00	4.80			
GOOD HOPE	15	0925	0950	0932	S20	E80	4508	25	1&		0932	1.50	8.60			S-SWF
TASHKENT	15	0929	0940 D	0932	S22	E79	4508	11 D	1	1		1.77	7.00			S-SWF
GOOD HOPE	15	1009	1023	1014	N29	W80	4493	14	1		1014	1.00	5.80			
GOOD HOPE	15	1040	1055	1042	S19	E80	4508	15	1		1042	1.00	5.80			
GOOD HOPE	15	1146	1155 D	1155	N13	W14	4498	9 D	1		1154	2.00	2.20			
GOOD HOPE	15	1226	1239	1229	S19	E80	4508	13	1		1229	.60	3.50			
GOOD HOPE	15	1227	1249	1235	N16	E70	4507	22	1		1235	1.20	3.90			
GOOD HOPE	16	1015	1035	1017	S19	E65	4508	20	1		1017	1.30	3.00			S-SWF
MOSCOW-G	16	1019 E	1036 D		S17	E68	4508	17 D	1	1	1023	1.03	2.80	2.50	110	
KIEV	16	1111 E	1314 D	1313	S21	E55	4508	123 D	1	2	1313	.85	1.50		80	
KIEV	16	1319 E	1328 D	1324	S21	E59	4508	9 D	1&	2	1324	1.71	3.40		100	
VOROSHILOV	16	2243 E	2319		N18	W24	4498	36 D	1&	2	2244	1.74	2.20		80	
VOROSHILOV	17	0007	0050	0024	S11	W56	4497	43	1&	2	0024	4.78	8.50		71	
KHARKOV	17	0906 E	0923		N21	E27	4506	17 D	1	2	0910	3.30	3.00	1.20		
KHARKOV	17	1008 E	1045 D		N15	W49	4498	37 D	1	2	0915	6.60	11.00			
KHARKOV	17	1045 E	1100 D		S21	E46	4508	15 D	1	2	0947	2.20	3.00			
ONDREJOV	19	1220 E	1225 D		N24	E21	4507	5 D	1	2	1225			2.40		
GOOD HOPE	19	1249	1330	1255	N17	W05	4506	41	1		1255	2.00	2.10			
GOOD HOPE	22	0824	0840 D	0840	S22	W15	4508	16 D	1		0840	2.50	2.70			S-SWF
SCHAUINS	22	0843 E	0855		S21	W18	4508	12 D	1	2			4.00	2.20		
GOOD HOPE	22	1130	1155	1136	S17	W18	4508	25	1		1136	2.50	2.90			
MEUDON	23	1453	1545		N16	W02	4514	52	1							
VOROSHILOV	24	0027	0046 D	0031	S20	W79	4516	19 D	1	1	0031	.87	3.60		64	
ONDREJOV	25	0452 E	0514		N12	E44	4523	22 D	1	3	0501			2.30		
ONDREJOV	25	1414 E	1451		N08	E25	4522	37 D	1	3	1434			2.10		
ONDREJOV	25	1555 E	1601		S19	E53	4524	6 D	1	3	1557			2.80		
ONDREJOV	26	1053 E	1107		N17	E71	4529	14 D	2	1	1053			5.80		S-SWF
ONDREJOV	26	1134 E	1136		N13	E66	4529	2 D	1	1	1135			2.20		
VOROSHILOV	26	2232 E	2306	2249	S18	W80	4508	34 D	1	2	2249	.87	3.60		62	
VOROSHILOV	26	2256	2323	2313	N22	E77	4529	27	1	2	2313	.78	3.20		92	
TASHKENT	27	0319	0341	0322	N22	E70	4529	22	1	1	0322	1.68	6.00		80	
SIMEIZ	27	0748	0834	0751	N10	W13	4519	46	1&	3	0803	4.36	5.10	2.30	56	S-SWF
KIEV	27	1102 E	1107 D	1105	N16	E58	4529	5 D	1	2	1105	1.71	3.70		80	
KIEV	27	1351 E	1353 D	1352	N20	E70	4529	2 D	1	2	1352	.85	2.60		80	
VOROSHILOV	28	0000	0020	0003	S14	E79	4530	20	1&	2	0003	1.39	4.50		94	S-SWF

SOLAR FLARES

APRIL 1958

OBSERVATORY	DATE APR 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
SYDNEY	28	0002	0013	0005	S17	E78	4530	11	1	1	0005	.50	2.00			
ALMA-ATA	28	0318 E	0335	0325	N22	W26	4521	17 D	1	3	0326	1.23	3.90		74	
ALMA-ATA	28	0520	0538	0528	S15	E68	4530	18	2b	3	0530	1.03	14.40		90	S-SWF
ABASTUMANI	28	0520 E	0622 D		S14	E70	4530	62 D	1	1	0523					
TASHKENT	28	0526	0602	0532	S16	E70	4530	36	1	3	0532	1.86	5.00	3.40	70	
TASHKENT	28	0546	0607	0550	N16	E41	4529	21	1	3	0556	1.68	2.00	2.10	65	
VOROSHILOV	28	2313	0110	2323	S15	E57	4530	117	1b	2	2323	2.52	4.30		134	
SYDNEY	28	2331 E	0033		S15	E54	4530	6	1	2	2335	3.00	5.00			
SYDNEY	28	2331 E	0033		S22	E58	4530	62 D	1	2	2349	1.50	3.00			
GOOD HOPE	29	1129	1240		N30	E52	4531	71	3		1204	8.00	16.00			Slow S-SWF
ONDREJOV	29	1429 E	1442 D		N28	E44	4531	13 D	1	1	1436			2.80		
ONDREJOV	29	1503 E	1506 D		N28	E44	4531	3 D	1	1	1506			1.90		
ONDREJOV	29	1459 E	1506 D		S21	W05	4524	7 D	1	1	1459			2.10		
SYDNEY	30	0017	0037	0021	S17	E43	4530	20	1	2	0021	1.50	2.00			
ABASTUMANI	30	0640	0646	0645	S17	E37	4530	6	1	2	0645	1.75	2.40			
ONDREJOV	30	0641 E	0648		S17	E33	4530	7 D	1	3	0644			2.20		
SIMEIZ	30	0806	0815	0809	S17	E35	4530	9	1	2	0807	1.75	2.40	2.60	60	S-SWF
SCHAUINS	30	0920 E	1011		S14	E40	4530	51 D	1	2			4.00	1.90		S-SWF
GOOD HOPE	30	0934	1010	0938	S20	W10	4524	36	2		0938	5.00	5.30			
MEUDON	30	0935	1000		S18	W13	4524	25	1							
SCHAUINS	30	0936 E	0955		S20	W10	4524	19 D	2	2			7.00	2.40		
ONDREJOV	30	0942 E	0948 D		S20	W12	4524	6 D	1	2	0946			2.00		
GOOD HOPE	30	0950	1036 D	0956	N21	E16	4529	46 D	1		1016	2.40	2.80			
SCHAUINS	30	1015	1026 D		N21	E15	4529	11 D	1	2			3.00	1.70		
SCHAUINS	30	1244 E	1248		N28	E39	4531	4 D	1	2			2.00	2.20		
ONDREJOV	30	1244 E	1251		N28	E33	4531	7 D	1	3	1246			2.80		
GOOD HOPE	30	1248	1310	1257	S16	E33	4530	22	1		1257	2.30	2.80			
SCHAUINS	30	1700 E	1711		S16	E36	4530	11 D	1	2			3.00	2.30		S-SWF

COMMERCE - STANDARDS - BOULDER

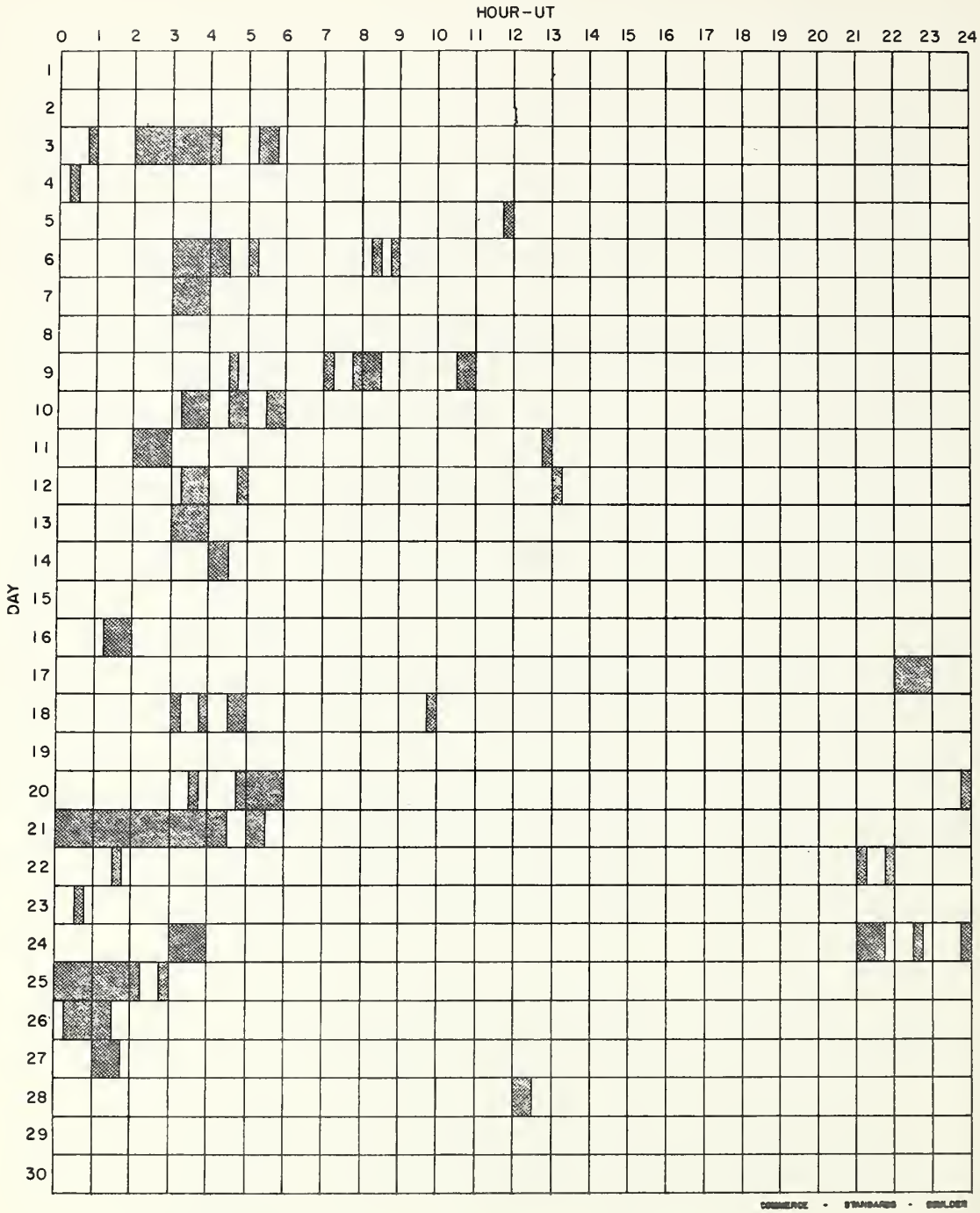
CAPRI G	ANACAPRI - GERMAN
CAPRI S	ANACAPRI - SWEDISH
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV*	KIEV UNIVERSITY
KODAIKNL	KODAIKANAL
KRASNYA	KRASNYA PAKHRA
MOSCOW	NIZMIR
MOSCOW-G	MOSCOW - GAISH
R O EDIN	ROYAL OBSERVATORY, EDINBURGH
R O HERST	GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK	SACRAMENTO PEAK
SCHAUINS	SCHAUINSLAND
USNRL	UNITED STATES NAVAL RESEARCH LABORATORY

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

E - LESS THAN
D - GREATER THAN
U - APPROXIMATE
& - PLUS
\- MINUS
□ - NOT REPORTED

INTERVALS OF NO FLARE PATROL OBSERVATIONS

APRIL 1958



Times indicated are accurate to the nearest 15 minutes.

Stations included:

Abastumani
Alma Ata
Anacapri (Swedish)
Arcetri
Arosa
Athens
Capetown
Climax
Dunsink
Hawaii
Huancayo
Ikomasan
Kharkov
Kiev I, GAO
Kiev University
Kodaikanal
Krasnaya Pakhra
McMath
Mitaka
Meudon
Moscow University
Nederhorst den Berg
Nizamiah
Ondrejov
Ottawa
Pirkuli
Royal Greenwich Observatory
Herstmonceux
Royal Observatory
Edinburgh
Sacramento Peak
Simeis
Sydney
Tashkent
Uccle
Utrecht
U.S.Naval Research
Laboratory
Voroshilov
Zurich

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

SEPTEMBER 1958

Sept 1958	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 170B
1	1346	1415	G-SWF	5	1	HU, MC, PR, PU	1223
1	2055	2117	Slow S-SWF	5	1+	AD, BE, HU, LA, MC, PR, WS	
2	0126	0200	S-SWF	5	2	AD, OK, TO	*
2	1044	1101	S-SWF	1	1	NE	1040E
2	1256	1310	Slow S-SWF	1	1-	PR	1308E
2	1638	1650	Slow S-SWF	3	1-	HU, MC	1632
2	1700	1732	S-SWF	5	2	BE, CO, FM, HU, MC, PR, WS	1640
2	2105	2137	S-SWF	5	2+	AD, AN, BE, CO, FM, HU, LA, MC, PR, TO, WS, RCA+	2102
3	0442	0455	Slow S-SWF	4	1-	AD, OK	
3	1800	1820	S-SWF	5	1	FM, HU, MC, PR, WS	
3	1925	2000	Slow S-SWF	5	2	AD, BE, CO, FM, HU, MC, PR, WS	1920
4	0507	0554	S-SWF	5	2+	NE, OK, TO, CW+	0528E
4	1457	1507	S-SWF	1	1	NE	1457
5	0538	0555	S-SWF	1	3	JU	0520E
5	1405	1420	Slow S-SWF	1	1-	HU	1359
7	0620	0632	S-SWF	5	1+	KO, OK	0613
7	1442	1512	S-SWF	5	2	BE, CO, HU, JU, MC, NE, PA, PR, PU	1441
7	1658	1743	S-SWF	5	3	BE, CO, FM, HU, MC, NE, PR, WS	1639
7	2135	2155	Slow S-SWF	4	1	AD, MC, PR, WS	2138
8	0138	0232	Slow S-SWF	1	2+	OK	0138
8	0952	1022	S-SWF	1	2	KU	0952
9	0050	0129	S-SWF	5	2-	AD, OK, PR	*
10	0000	0050	Slow S-SWF	4	1+	AD, OK	2350
10	1011	1027	S-SWF	1	2	PU	1005
10	1322	1400	Slow S-SWF	5	1	FM, HU, MC, PR	
11	0203	0220	S-SWF	4	1	AD, OK	
11	1415	1450	S-SWF	1	1	NE	
11	1803	1840	Slow S-SWF	5	1+	AD, FM, HU, MC, PR, WS	1740
12	0700	0742	S-SWF	5	2	NE, OK	0658
12	0815	0850	Slow S-SWF	1	2	NE **	0812E
12	0909	0943	S-SWF	5	2	NE, SW, CW ***	0900
12	1618	1650	S-SWF	5	1+	BE, CO, FM, HU, MC, PR, WS	1605
12	1708	1740	Slow S-SWF	5	2	CO, FM, HU, MC, PR, WS	1656
13	0022	0053	Slow S-SWF	5	1+	AD, OK	0017E
13	0913	1023	Slow S-SWF	3	2	KU, NE	0904
13	1420	1510	G-SWF	4	1	HU, MC, PR +**	1426
14	0851	0949	S-SWF	5	3	MA, NE, OK, PU, SW, CW***	0832
14	2325	2358	S-SWF	4	2	AD, OK	2324
15	0835	1010	S-SWF	1	3	DA, PU	0827E
15	1435	1452	Slow S-SWF	5	1+	BE, FM, HU, JU, MC, PR	1435
15	1700	1750	S-SWF	5	2+	AD, BE, CO, FM, HU, LA, MC, NE, PR, TO, WS	1650
15	2010	2040	Slow S-SWF	5	1+	AN, HU, LA, MC, PR, WS	1933
16	1458	1540	Slow S-SWF	5	2	CO, FM, HU, JU, MC, NE, PR	1443
17	1538	1605	G-SWF	4	1	HU, PR, WS	1525E
18	0400	0553	S-SWF	1	3+	OK	0350
20	0232	0304	Slow S-SWF	1	2	OK	0242E
21	0900	0927	Slow S-SWF	1	2	NE	
21	1500	1525	Slow S-SWF	3	1	HU, MC, PR	
22	0755	0830	S-SWF	1	2	PU	0743
23	1033	1051	S-SWF	1	2	JU	1024
24	0051	0122	S-SWF	4	1	AD, OK	
25	2253	2332	S-SWF	5	2	AD, OK, WS	2255
28	0125	0149	S-SWF	4	1+	AD, OK	0115
28	1530	1550	Slow S-SWF	4	1	BE, HU, MC, PR	1521E
28	2045	2055	Slow S-SWF	4	1	AD, HU, WS	
30	0942	1000	S-SWF	1	1	NE	0924E

CO = Cornell University, Ithaca, N.Y.
DA = Darmstadt, G.F.R.
FM = Ft. Monmouth, N.J.
JU = Julhlesruh, G.D.R.
KO = Kodaikanal, India.
KU = Kuhlungsborn, G.D.R.
LA = Los Angeles, Calif.
MA = Madrid, Spain.
NE = Nederhorst den Berg, Netherlands.
PU = Prague, Czechoslovakia.
SW = Enkoping, Sweden.
TO = Hiraiso Radio Wave Observatory, Japan.
CW+ = Cable and Wireless, Hong Kong.
CW** = Cable and Wireless, Somerton, England.
CW*** = Cable and Wireless, Brentwood, England.
RCA+ = RCA Communications Inc., Pt. Reyes, Calif.

IONOSPHERIC EFFECTS OF SOLAR FLARES

(Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc.)

MARCH 1958

DATE	CLASS SCNA	CLASS SEA	CLASS Burst	WIDESPREAD INDEX	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
1		2		3	0815	0840			HO,PU
1	✓			1	0914	0917	0922		ED
1		3		3	0915	0920	1015		ED,PU
1	1			1	1618	1620	1629	30	SP
1			1	1	1635		1648		RE
1		2		5	1647	1657	1742		A1,A4,BO,DE,DU,ED,MC,NE,SP
1	2			5	1648	1655	1725	37	BO,MC,RE,SP
2		2		3	1138	1144	1214U		ED, PU
3		3		5	1010	1026	1219		DU,ED,NE,PU
3	✓			1	1013	1030U	1110		ED
3		1+		3	1530	1538D	1558		A4,DU
5		1		3	1317	1324	1352		ED,PU
5	1-			1	1411	1413	1416		RE
7		3		4	1031	1049	1200		ED,NE,PU
7		1		1	1315	1319	1358		A3
7			1	1	1317	1321	1352		RE
7	1-			1	1801	1815	1842	7	BO
7		1		4	1816	1825	1846		A1,A3,BO
8		1		3	1216	1219	1313		ED,NE
8		2		5	1326	1334	1419		A3,A4,DE,DU,ED,NE,PU
8	✓			1	1327	1333	1341		ED
8	1-			1	1610	1619	1645	10	MC
8		2		3	1619	1629	1703		A4,MC
8		2		5	1722	1729	1745		A2,A4,DU,ED,MC,NE,SP
8	2			5	1723	1726	1756	37	BO,MC,SP
8	1			5	1803	1811	1823	21	BO,MC,SP
8		2+		3	1804	1811			A2,MC
8	1-			1	1858	1901	1910U		RE
8		2-		3	1858	1919	2000		A2,MC
8	1+			5	2100	2109	2127	55	BO,MC,SP
8		2		5	2100	2110	2145		A2,A4,MC,SP
9	2			5	1543	1547	1623	32	BO,MC,RE,SP
9		2+		5	1543	1553	1612		BO,DU,ED,NE,PU,SP
9	1-			1	1901	1905	1928	10	BO
9		1		1	1902	1923	1930		BO
9			1	1	1914	1915	1917		SP
9	1+			5	2003	2009	2030	25	BO,MC,RE,SP
9		2		5	2003	2009	2058		A3,A4,BO,DE,MC,PA,SP
10		1		1	0709		0721		NE
10		3		5	1318	1326	1437		DU,ED,NE,PU
10	1			3	2027	2038	2100	15	BO,SP
10		1-		3	2027	2047	2119		BO,SP
11	1-			1	1510	1521	1531	15	MC
11		2+		5	1510	1512	1810		A2,ED,MC,NE,PA,PU
12	2			3	0210		0304		MC,RE
12	2+			3	0642	0702	0723		MC,RE
12			1-	1	1427	1428	1430		MC
12	2+			5	1433	1442	1512	35	BO,ED,MC,RE,SP
12		2+		5	1430	1440	1548		A2,A4,BO,ED,MC,NE,PA,SP
13	1			3	1200	1216	1228	15	MC,RE
13	1-			3	2035	2044	2100	10	BO,SP
13		1-		4	2041	2047	2115		A3,BO,SP
13			1	1	2204	2206	2210		MC
13		1		3	2205	2227	2300		A3,BO,SP
13	1			3	2210	2224	2300	15	BO,SP
14		3		5	1457	1521	1640		BO,DU,ED,MC,NE,PU
14	1+			5	1500	1519	1552	20	BO,ED,MC,RE
14	1-			3	1853	1907	1930	10	BO,SP
14		1-		3	1859	1905	1917		BO,SP
15		1		3	1544	1551	1630		ED,NE
15		1+		4	1821	1830	1848		A3,BO
15	1-			1	1822	1825	1842	11	BO
16		1		3	1537	1544	1617		ED,NE
18	1+			1	1614	1623	1645	25	MC
18		2		1	1614	1618	1700		A3
19		2		4	2209	2218	2232		BO,DE
19	1-			1	2210	2213	2220	4	BO
20		3		5	1303	1311	1406		A3,ED,NE,PU
20	2			5	1452	1500	1521	35	BO,ED,MC,RE
20		2+		5	1454	1509	1546		A3,BO,ED,NE,PA,PU,SP
20		1+		3	2036	2052	2118		A3,BO
20	1			5	2039	2048	2108	26	BO,MC,RE
21		2		5	1020	1033	1100		ED,NE,PA,PU
21		1+		5	1415		1445		A3,PA,PU
21	1			4	1521	1533	1553	25	MC,SP
21		2		5	1527	1543	1623		MC,NE,PA,PU,SP
21		1+		5	1714	1725	1802		BO,DU,ED,MC,NE
21			1+	5	1716	1718	1722		BO,MC,SP
21	2-			5	1721	1723	1749	31	BO,MC,SP
21	2			5	1852	1901	1932	45	BO,MC,RE,SP
21		1		5	1852	1904	1932		A3,BO,MC,SP
21	1-			4	1927	1941	1948	15	BO,MC
22		1+		4	1047		1113		NE,PA
22		2		5	1125	1136	1213		DU,ED,NE,PA
22		2		5	1235	1244	1331		A3,DU,ED,MC,NE,PA
22	1			5	1237	1245	1300	10	ED,MC,RE
22	1-			1	1812	1817	1835U		RE
22			1	3	1907	1910	1912		BO,SP
23		1		1	0845		0916		NE
23	✓			1	0953	1017	1141D		ED
23		1+		5	0953	0958	1102		ED,HO,MC,PA

COMMERCE - STANDARDS - BOULDER

IONOSPHERIC EFFECTS OF SOLAR FLARES

(Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc.)

MARCH 1958

DATE	CLASS SCNA	CLASS SEA	CLASS Burst	WIDESPREAD INDEX	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
23	1			1	1744	1746	1753		SP
23		1		4	1745	1755	1825		A2,A3,A4
23	1+			5	1826	1832	1854	60	BO,MC,RE,SP
23		1+		4	1826	1838	1940		A2,A3,A4,MC
24		1+		4	1055		1150		A2,PA,PU
24			1	1	1123		1129		RE
24		3		3	1547	1557	1712		ED,NE
24			1	4	1720	1722	1725		MC,SP
24			2	4	1728	1731	1734		MC,SP
24	1+			3	1734	1736	1756	15	MC,RE
24		1		1	1734	1743	1815		MC
24	1-			1	2305	2312	2315	9	BO
24	1-			1	2320	2325	2400	10	BO
25		1		1	0559		0645		HO
25		1		1	1415		1443		NE
25		1+		3	1455		1530		NE,PU
26	2			1	0029	0031	0035		RE
26	1-			1	2038	2051	2117	8	BO
26		1		3	2038	2100	2117		BO,SP
26			1	1	2320	2322	2325		MC
26	1+			3	2331	2340	2345	50	BO,SP
26		1		1	2335	2347	2356		BO
27		2		5	1200		1236		ED,NE,PA,PU
27		2		5	1535	1546	1654		A3,BO,DU,ED,MC,NE,PA,PU,SP
27	2			5	1537	1553	1645	41	BO,MC,RE,SP
27	1+			5	1703	1706	1740	28	BO,MC,RE,SP
27		1+		5	1703	1713	1750		BO,DE,DU,ED,NE,PA,PU,SP
27	1			1	1947	1953	1959	50	SP
27		1		3	1947	1954	2003		BO,SP
27	1-			1	2150	2152	2215	10	BO
27		1-		1	2150	2159	2213		BO
27		1		1	2302		2330		HO
27	1-			1	2305	2309	2335	11	BO
28		1		4	0813	0815	0825		DU,PA
28	✓			1	1034	1039	1054		ED
28		2-		5	1035	1040	1100		DU,ED,HO,NE,PA,PU
28	2			4	1709	1716	1745	45	BO,MC,SP
28		2		5	1711	1719	1815		DE,DU,ED,NE,SP
28			2	5	1834	1838	1840		MC,RE,SP
28	2			5	1838	1841	1845	35	BO,MC,RE,SP
28		2-		5	1838	1844	1924		DE,ED,MC,PA
28			1	1	2024	2026	2027		SP
28	1			1	2028	2031	2035	15	SP
28		1		1	2029		2036		DE
28			1	1	2038	2040	2043		MC
28	3			5	2042	2049	2108	60	BO,MC,RE,SP
28		2+		4	2048	2054	2220		A3,A4,DE
28	1-			1	2243	2249	2254	10	SP
28		1		1	2244		2319		HO
29		1		5	0800	0806	0850		ED,HO,NE
29			1	1	1220				RE
29	1-			5	1220	1224	1238		ED,RE
29		2-		5	1220	1224	1244		A3,DE,ED,NE,PA,PU
29		2		5	1341	1351	1440		A1,A3,A4,BO,DE,DU,ED,NE,PA,PU,SP
29	3-			5	1342	1346	1405	70	BO,ED,MC,RE,SP
29	1			4	1448	1453	1503	10	RE,SP
29		2-		5	1449	1451	1532		DE,DU,ED,NE,PA,PU,SP
29			1	1	1450U				RE
29	1-			1	1505	1507	1520	13	BO
29		1		4	1505	1507	1543		A1,A3,BO
29		2		5	1627	1639	1730		A1,BO,DE,DU,ED,NE,PU,SP
29	2			5	1630	1637	1655	30	BO,MC,RE,SP
29			1	4	1749	1751	1753		RE,SP
29			1	5	1817	1822	1823		MC,RE,SP
29		2+		5	1820	1825	1910		A1,A3,A4,BO,DE,ED,MC,NE,PA,SP
29	3-			5	1821	1824	1856	70	BO,MC,RE,SP
29			1	1	2125	2131	2131		SP
29		2+		5	2130	2136	2230		A1,A3,A4,BO,DE,MC,SP
29	2+			5	2132	2137	2147	50	BO,MC,RE,SP
30	✓			1	0950	1000U	1017		ED
30		2		3	0953	1002	1106		ED,NE
30		1+		3	1140	1152	1228		A1,A3
30				1	1427	1429	1435		ED
30			2	3	1533	1540	1541		MC,RE
30			1	4	1546	1548			BO,MC
30		1		4	1600	1607	1645		MC,PU
30			1-	1	1744	1746	1747		MC
30	1			1	1747	1757	1822		MC
30			1	4	1859	1900	1903		BO,MC
30		1+		1	1903	1922	1958		A3
30	1			1	1910	1917	1923		RE
30	1-			1	2316	2322	2340		BO
31	1-			1	0023	0029	0044	16	BO
31		3		5	1422		1532		ED,NE,PU
31				1	1443	1446	1549		ED
31			1+	4	1651	1655	1656		BO,MC
31			1+	4	1710	1714	1716		BO,MC
31			1+	5	1826	1830	1832		BO,MC,SP
31			1+	5	1937	1940	1941		BO,MC,SP
31		1		1	1938	1943	2000		BO
31	1			1	1940	1943	1951		BO

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
DAILY DATA

OCTOBER 1958

Washington, D.C. — 9530 Mc.

Day	Flux	Day	Flux	Day	Flux
Oct. 1	235	11		21	271
2	246	12		22	258
3	258	13	246	23	253
4		14	253	24	256
5		15	240	25	
6	242	16	258	26	
7	243	17	302	27	252
8	236	18		28	258
9	245	19		29	252
10	244	20	271	30	252
				31	252

OUTSTANDING OCCURENCES

Oct 1958	Type	IAU	Start UT	Duration Hrs.Mins	Maximum Time UT	Peak Flux	Observing Period UT	Remarks
1							1130-2040	
2	Simple 3	SD	1811.3	42.0	1835.5	12	1145-2040	
3	Simple 3	SD	1940.4	12.0	1942.0	7	1156-2050	
6	Complex	CD	1707.9	2.0	1706.8	31	1129-2039	
7							1130-2046	
8							1130-2041	
9							1132-2114	
10							1134-2046	Local interference
13							1125-2025	
14							1130-2040	
15							1135-2108	
16							1135-2025	
17							1233-2100	
20							1135-2030	
21	Simple 2	SD	1416.0	Indet	1414.1	17	1330-2025	
	Complex	CD	1951.0	5.5	1952.0	331		
	Post Inc			Indet		18		
22	Simple 2f	SD	1423.2	4.6	1426.0	45	1230-2005	
			1446.0	Masked by interference				
23	Complex	CD	1726.4	3.0	1727.1	116	1150-1913	
	Complex	CD	1839.8	4.0	1841.5	21		
24							1630-2050	
27							1233-2130	
28							1441-2100	
29							1250-2135	
30							1308-2125	
31	Simple 1	SD	1831.2	4.5	1821.8	4	1253-2130	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
DAILY DATA

OCTOBER 1958

Washington,D.C. 3200 Mc.

Day	Flux	Day	Flux	Day	Flux
Oct. 1	178	11		21	211
2	174	12		22	201
3	178	13	162	23	183
4		14	176	24	184
5		15	167	25	
6	148	16	183	26	
7	149	17	190	27	165
8	147	18		28	183
9	152	19		29	183
10	154	20	197	30	186
				31	184

OUTSTANDING OCCURENCES

Oct 1958	Type	IAU	Start UT	Duration Hrs.Mins	Maximum Time UT	Maximum Peak Flux	Observing Period UT	Remarks
1							1130-2040	
2	Simple 3	SD	1811.5	55.0	Indet	6	1145-2040	
	Simple 1	ESD	1952.3	1.0	1952.9	7		
3	Simple 1	SD	1529.0	7.0	1532.3	4	1156-2050	
	Simple 3	SD	1621.0	10.0	1625.3	3		
	Simple 3	SD	1938.7	13.5	1942.7	7		
6	Complex	CD	1705.9	5.5	1706.5	70	1129-2039	
7							1130-2046	
8							1130-2041	
9							1132-2114	
10							1134-2046	Local interference
13							1125-2025	
14							1130-2040	
15							1135-2108	
16							1135-2025	
17							1233-2100	
20							1135-2030	
21	Complex	CD	1416.2	4.3	1418.6	82	1330-2025	
	Post Inc			24.5		7		
	Complex	CD	1950.6	5.9	1952.5	207		
	Post Inc			<30.0		11		
22	Simple 2f	SD	1423.2	6.5	1426.0	45	1230-2005	
	Simple 2f	SD	1426.1	4.0	1448.0	14		
	Simple 2	SD	1923.5	2.0	1924.3	16		
23	Complex	CD	1725.8	6.2	1726.7	32	1150-1913	
	Complex	CD	1838.2	3.0	1841.2	66		
24	Simple 3A	SA	1439.0	1 48.0	Indet	53	1200-2050	
	Complex	CD	1442.2	14.0	1445.0	158		
	Simple 2	SD	1507.5	8.7	1510.5	154		
27							1233-2130	
28	Simple 2	SD	1857.1	1.2	1557.6	17	1441-2100	
29							1250-2135	
30							1308-2125	
31	Simple 2	SD	1444.4	3.0	1445.1	12	1253-2130	
	Simple 3	SD	1823.2	15.0	1827.2	4		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
OCTOBER 1958

OTTAWA **2800 Mc.**

Oct 1958	Type*	Start UT	Duration Hrs:Mins	Maximum Time UT	Maximum Peak Flux	Remarks
1	6 Complex	1215	12	1221.5	40	
2	3 Simple 3 f	1810	1 10	indet.	7	
2	2 Simple 2 f	2143	7	2144.2	160	
4	2 Simple 2 f	1358	5	1359.2	100	
	4 Post Increase		20		6	
4	3 Simple 3 A	1801	45	1818	7	
	2 Simple 2	1801	7	1803.5	10	
5	2 Simple 2 f	1159.5	9	1201	180	
6	2 Simple 2 f	1716	4	1716.9	150	
10	3 Simple 3	1452	10	1454	5	
13	1 Simple 1	1250.5	2	1251	7	
13	3 Simple 3 A	1919	12	indet.	6	
	1 Simple 1	1920	0.7	1920.3	7	
	2 Simple 2	1924.7	1.7	1925.3	15	
13	2 Simple 2	2151.7	1.3	2152.3	35	In sunset osc.
14	3 Simple 3	2040	10	2041.5	9	
16	6 Complex	1712	8	1716	13	
16	2 Simple 2	2015	10	2019	18	
17	2 Simple 2	1709	7	1712	22	
18	6 Complex	1443	5	1444.5	11	
19	2 Simple 2 f	1308.5	7	1310	130	
19	2 Simple 2	1441.3	3	1442	15	
20	1 Simple 1	1645.5	1	1646	4	
20	8 Group (2)	1914.5	7.5			
	6 Complex	1914.5	3	1915	25	
	2 Simple 2 f	1919.5	2.5	1920.5	12	
21	2 Simple 2 f	1416	4	1418.5	65	
	4 Post Increase		25		13	
21	3 Simple 3 f	1540	1	1557	16	
21	1 Simple 1	1906	1	1906.5	5	
21	2 Simple 2 f	1950.5	7	1952.5	225	
	4 Post Increase		>1 30		15	
22	2 Simple 2	1424	7	1426	45	
22	6 Complex	1445.5	5	1448	20	
22	2 Simple 2	1924	2	1924.5	20	
23	6 Complex f	1726	7	1727.5	45	
23	3 Simple 3 A	1832	35	indet.	8	
	6 Complex	1837.5	8	1841.5	65	
24	2 Simple 2	1413	7	1416.5	8	
24	6 Complex f	1439	45	1510.5	185	
	4 Post Increase		3 10		40	
25	3 Simple 3	1828.5	12	1831	8	
25	1 Simple 1	2029.5	2	2030.5	5	
26	1 Simple 1	1835.5	3	1837	3	
26	1 Simple 1	2050.5	1.5	2051	5	
28	Rise	1508	indet.	indet.	13	
28	1 Simple 1	1830.5	1	1831	5	
28	2 Simple 2	1856.5	2.5	1857.5	18	
29	1 Simple 1	1516	1	1516.5	4	
31	2 Simple 2	1444.5	3	1445	11	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION

DAILY DATA

OCTOBER 1958

CORNELL 200 MC

Oct 1958	Flux Density 10^{-22}w m^{-2}(c/s)$^{-1}$ Hours UT				Variability 0 to 3 Hours UT				Observing Periods Hours UT
	12 15	15 18	18 21	21 24	12 15	15 18	18 21	21 24	
1	[13	12	12]		[1	0	0]		1245-2010
2	[14	15	14	13]]	[2	2	3	3]]	1310-2200
3	[12	13	12]		[1	1	2]		1250-2005
4	[13	13]]			[0	1]]			1250-1600
5	[12	12]]			[0	0]]			1250-1605
6	[12	11	12]		[1	1	1]		1255-2035
7	12	11	11]		0	1	0]		1235-2000
8	[12	11			[0	1			1250-1745
9	11	11	11		1	0	1		1235-2030
10	[11	11	11]		[2	0	0]		1250-2000
11	[11	11]]			[0	0]]			1250-1600
12	[13	13]			[0	0]			1245-1625
13	[13	13	13]]		[1	1	0]]		1250-1900
14	[12	12	12]]		[0	0	0]]		1245-1820
15	[12	12			[0	0			1 15-1725
16	[11	11	11]		[0	0	1]		1250-2000
17	[12	12	12]]		[0	0	0]]		1250-1915
18	[16	16]]			[2	1]]			1245-1600
19	17	17]]			2	2]]			1240-1605
20	[15	12			[2	1			1245-1800
21	[14	13	12]		[1	1	1]		1245-2015
22	[13	13	12]		[3	2	2]		1245-2005
23	[12	12	11]		[1	1	2]		1255-2040
24	[14	13	14]		[2	1	1]		1255-2000
25	[12	12]]			[1	0]]			1245-1605
26	[12	12]			[0	0]			1315-1700
27	[[14	15	19		[[1	1	1		1345-1810, 1825-2100
28		28	30]			1	1]		1520-1930
29	[[60	60	54]		[[2	2	2]		1355-2105
30	[[20	19	17]		[[2	2	2]		1345-1930
31	[[12	12	13]		[[2	1	1]		1355-1930

[= 1st hour missing.
[[= 1st two hours missing.
] = last hour missing.
]] = last two hours missing.

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
OCTOBER 1958

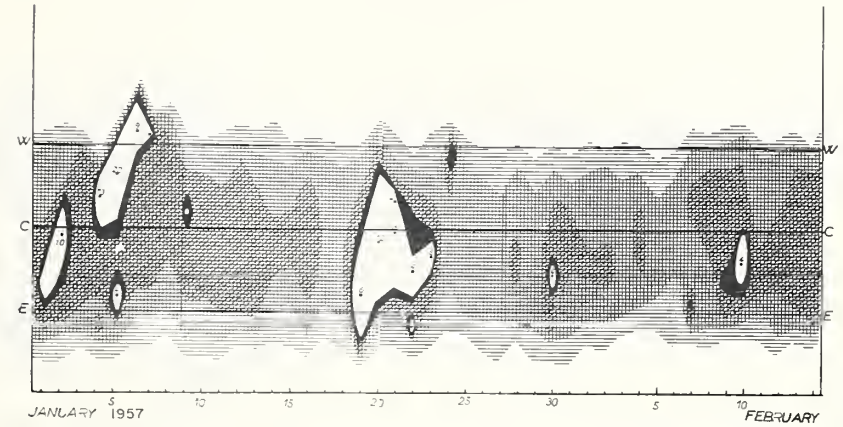
CORNELL — 200 Mc.

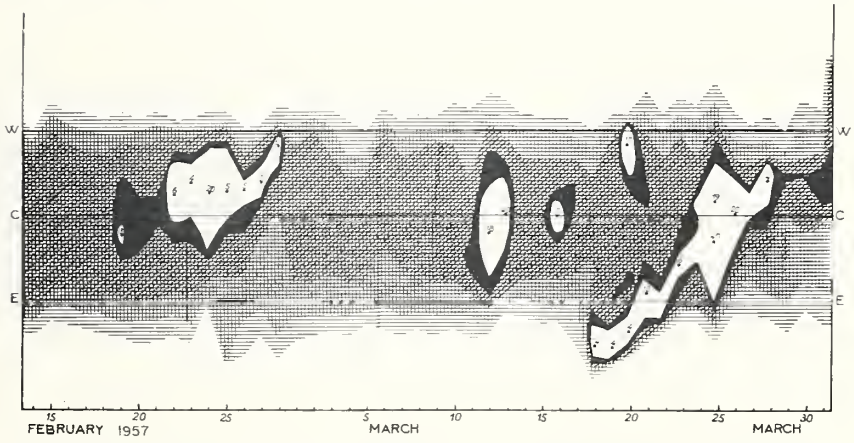
Oct 1958	Type Ap.J	Start UT	Time of Maximum	Duration Minutes	Type IAU	Max. Flux Density 10^{-22} w m^{-2}(c/s)$^{-1}$ Inst.	Smooth	Remarks
2	3	1350.5		.5	CA	91	72	
	3	1453.5	1453.5	1.5	CA	72	55	
	8	1639	1646.5	11	ECD	260	210	
	3	1712	1713.5	2.5	CD	91	72	
	9	1820.5	1822	3	ECD	140	120	
	9	1824	1835	18	ECD	91	72	
	9	1944	1952.5	10	ECD	260	210	
	9	1957	1958	49	F	210	180	
	8	2141.5	2145	11	ECD	1700	1500	
3	3	1922		1.5	CA	45	34	
6	9	1302		4.5	CD	~ 65		
	9	1307.5		22.5	F			
	3	1628.5		.5	CD	30	19	
	2	1801		1.5	CD	34	20	
	3	1956		1	SD	5500	5200	
7	3	1527.5		.25	SD	140	120	
	3	1641.5		1	CD	140	120	
8	2	1528.5	1532	4	ECD	140	120	
9	2	1454	1456.5	4.5	ECD	210	180	
10	8	1334	1335	1.5	ESD	52,000	46,000	
	8	1416.5		1	ECD	120	91	
13	3	1431.5	1432	1.5	CD	55	41	
	3	1642		1	CD	91	72	
	3	1650		.25	SD	1700	1500	
17	3	1910		.5	SD	2000	1700	
18	3	1520		.5	CD	530	440	
	2	1529	1530	4	CD	72	55	
19	8	1309	1309	2	CD	260	210	
	8	1440.5	1441.5	2.5	CA	9400	7200	
	3	1444.5		.25	SA	530	380	
	3	1453		.25	SA	140	91	
20	1	1247		84	F			
21	3	1409.5		.25	CD	45	32	
	3	1742.25		< .25	SD	35	24	
	2	1952.5	1953.5	6	F	36	26	
22	8	1301.5	1302	6	CD	740	630	
	8	1432	1432.5	9	CD	320	260	
	8	1445	1445.5 1447.5	5	CD	1700	1500	
	3	1537		.5	CD	120	91	
	8	1556.5	1600	3.5	CD	260	210	
	2	1735.5	1736	15	F	180	140	
	8	1908.5	1909, 1909.5	1.5	CD	320	260	
	8	1923	1924	3	CD	440	380	
	8	1948	1948	4	CD	2400	2000	
23	8	1320	1320.5	1.5	CD	120	91	
	8	1726	1729.5	10	ECD	7200	6300	
	9	1825		.5	CD	91	72	
	9	1832	1838, 1840	10	F	180	140	
24	0	1442	1510.5	53	ECD	260	210	
	8	1643.5	1644	2	CD	3200	2800	
	8	1825.5		1.5	CD	180	140	
27	3	1542.5		1	CA	72	55	
	3	1735.5		.25	CA	42	33	
	3	1759.5		.5	SA	140	120	
	2	1834.5	1838	3.5	F	380	260	
	3	2004.5	2006	1.5	CA	320	210	
	3	2028		.5	CA	91	55	
28	3	1801.5		< .25	SA	210	140	
	3	1824		< .25	SA	210	120	
	3	1849.5		.25	CA	120	55	
	2	1926.5		2.5	CA	180	91	
30	2	1749		1.5	CA	210	140	
	3	1842.5		.5	CA	320	210	
31	3	1406.5		.5	CA	91	72	
	3	1416		< .25	SA	72	55	
	3	1428.5		.5	CA	60	46	
	2	1606	1608	2.5	F	91	72	
	3	1614		.5	CA	320	260	
	3	1813.5		1	CA	72	55	

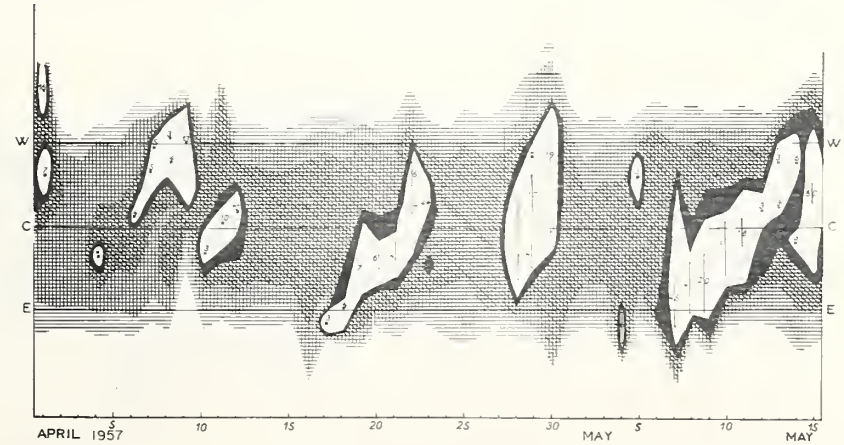
COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nançay 169 Mc

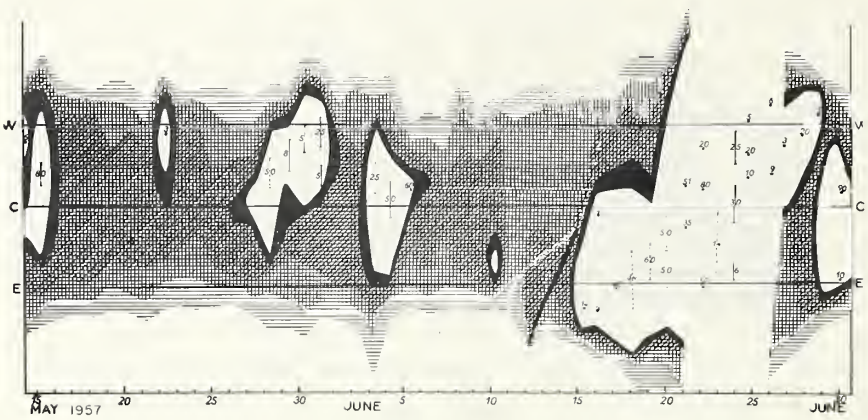


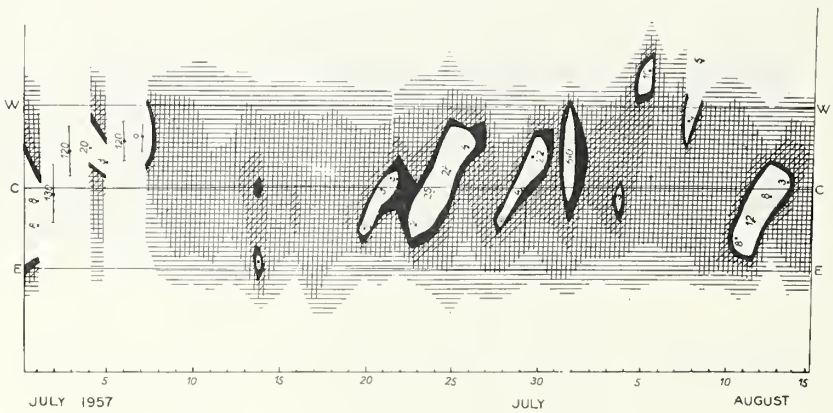


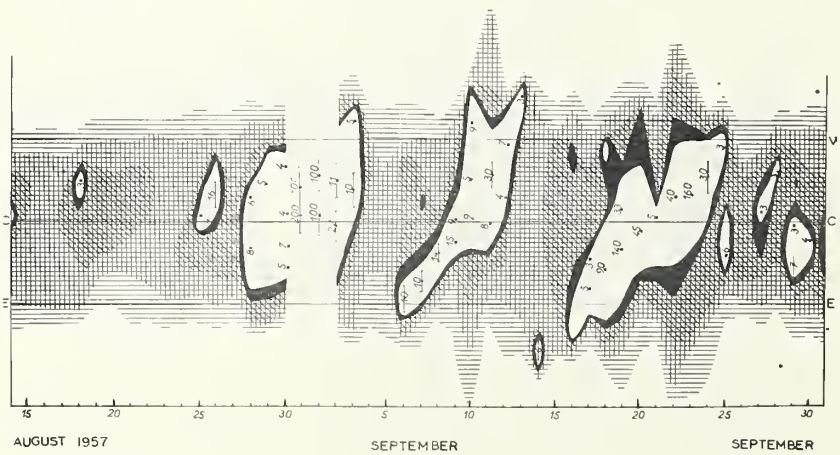


SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nançay 169 Mc

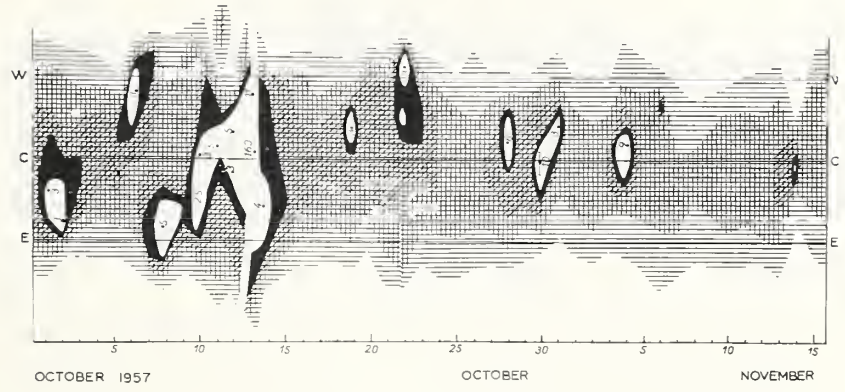


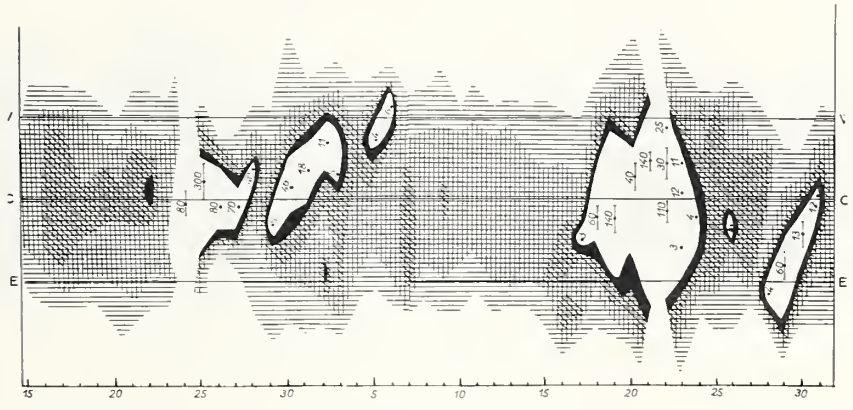


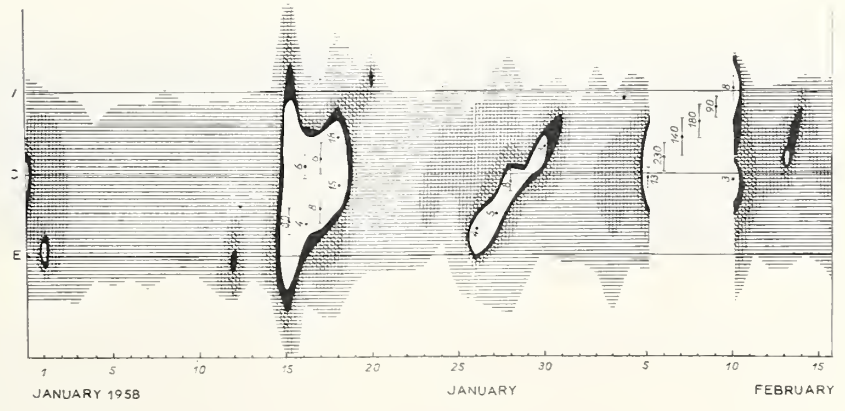


SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nançay 169 Mc



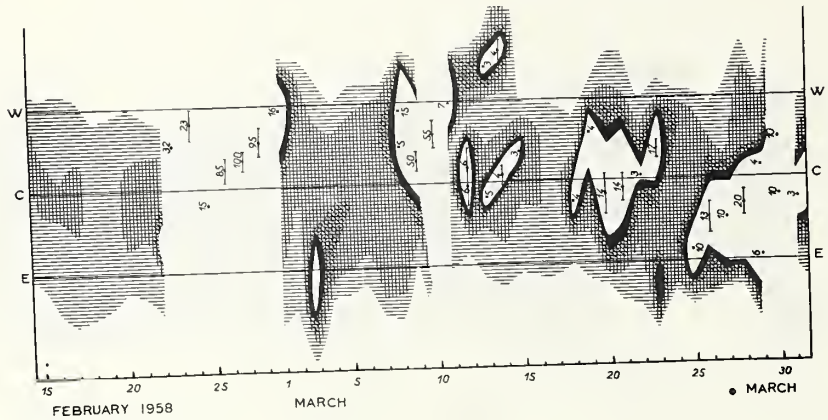


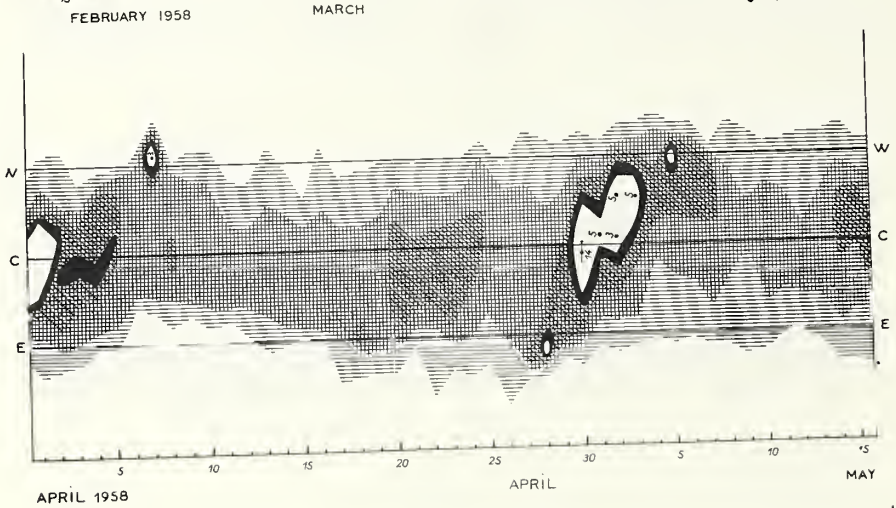


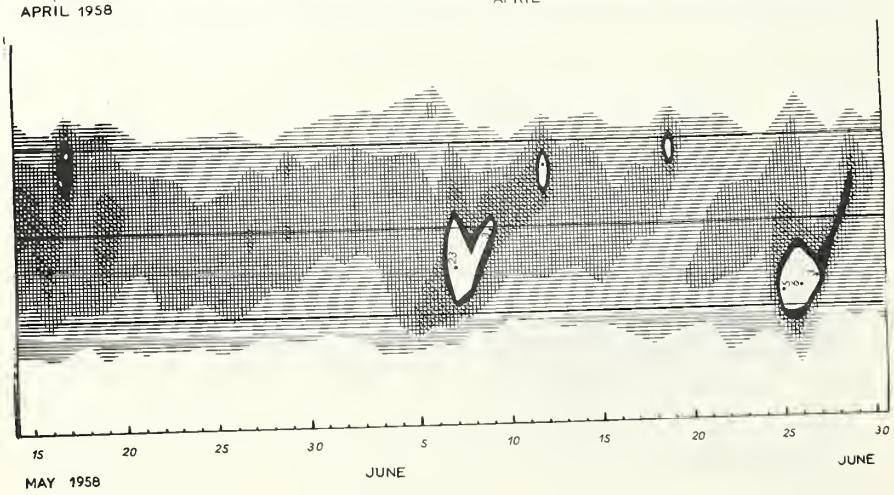
SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nançay

169 Mc

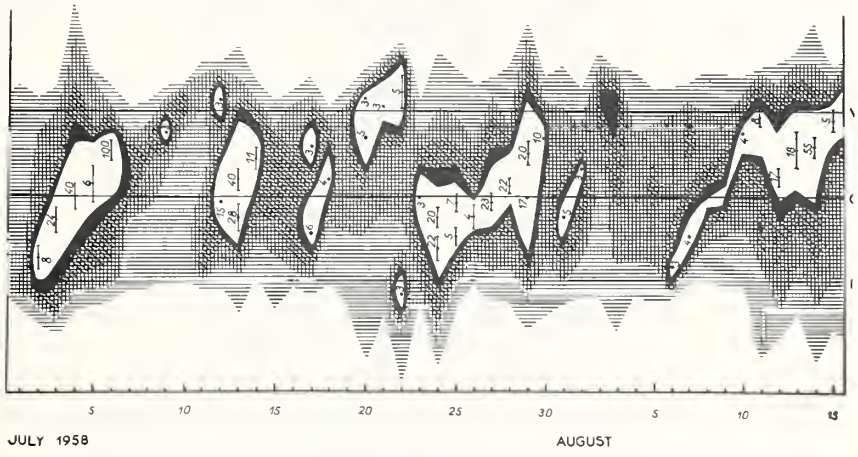


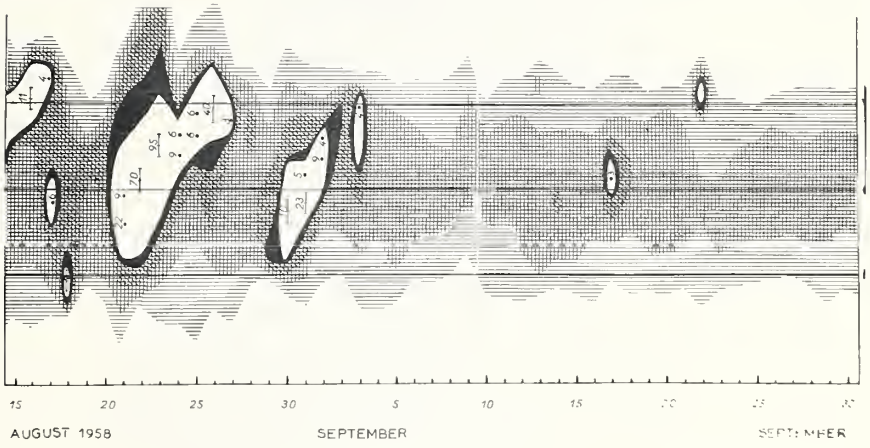




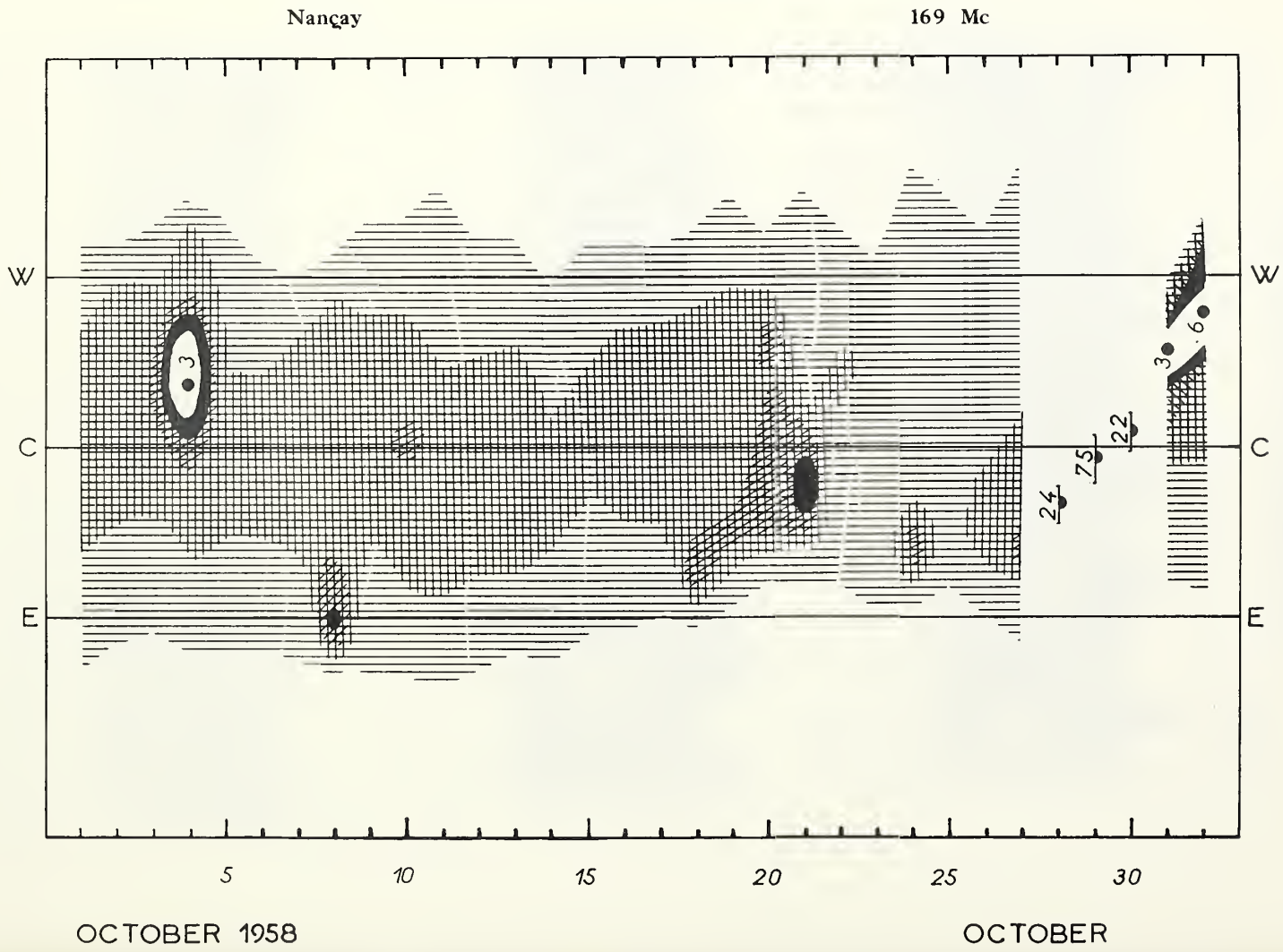
SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nançay 169 Mc





SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS



SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

OCTOBER 1958

100-580 Mc.

Fort Davis

Date and Observing Times (U.T.) 1958	Type I (Noise Storms and Continuum)			Type II (Slow Drift Bursts) Unclassified				Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Act	Time	Int	Act	Time	Int	
Oct. 1								8	2033	2	October 1, 2, 3: 28 ft paraboloid antenna under repair; observations on these days were made with the low band receiver, 100-180 Mc/s, connected to a temporary corner reflector antenna; bursts of intensity 1 were below the threshold of sensitivity.
1910-2300											
Oct. 2											
1302-2300		1424	2	II		2148.9-53	3	b	1454	2	
	Cont.	1701	3					g	1646-47	2	
		1706	2					g	1701	3	
		1841	2					g	1712-13	3	
		1959	2					b	1722	2	
	Cont.	2144	3					g	1835	2	
		2158	2					G	1944-50	2	
								g	1951	3	
								g	1952-53	2	
								g	2030	3	
								G	2044	3	
								g	2143-44	3	
								g	2145	2	
								b	2146	3	
								g	2155-56	2	
								g	2241-42	2	
Oct. 3											
1300-1800											No activity observed.
Oct. 4											
1303-2400		1326	2					b	1620	3	
		1826-27	1					G	2206-07	3	
		1936-2047	1					b	2242	1	
Oct. 5											
0000-0015		1324-26	1					g	1843	3	
1307-2400		1614-15	1					g	1846-47	3	
		1851-52	3					b	1848	1	
Oct. 6											
0000-0015		1657	1					b	1618	1	
1318-2400	Cont.	1956	3					g	1802	1	
		2005	1					g	1839-40	2	
		2039-2243	1					g	1956	3	
		2303-35	1					b	2004	3	
		2345	1								
Oct. 7											
0000-0015		0005	1					g	1451	3	
1316-2400		1446-49	1					G	1516-20	2	
		1510-11	2					b	1528	2	
		2026-27	1					g	1641	2	1641 Inverted U burst.
								G	1642-43	2	
								g	1645	2	
								g	1824-25	1	
Oct. 8											
0000-0015		1435-36	1	II		1528.7-35	2	b	1528	1	
1315-2400		1809	1					b	1557	2	
		1837-39	3					g	2049	1	
		1848-49	3								
		2144	1								
Oct. 9											
0000-0015		1501-04	1					g	1336	2	
1316-2400								G	1454-55	2	
								g	1457	2	
								b	1458	1	
Oct. 10											
0000-0015											
1332-2400								g	1415-16	2	
								G	1416-17	2	
								g	1418	3	1552 Inverted U burst.
								g	1503	1	
								g	1552	2	
								G	1740-41	2	
								g	1847	1	
								g	1848	2	
								g	1850	1	
								b	2109	1	
								g	2110	1	
Oct. 11											
0000-0010		1935-36	1-					g	1347	2	
1332-2400		1942	2								
		2040	1								
		2058	1								

*Bursts unless specified otherwise.

SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

OCTOBER 1958

Fort Davis — 100-580 Mc.

Date and Observing Times (U.T.) 1958	Type I (Noise Storms and Continuum)			Type II (Slow Drift Bursts) Unclassified				Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Act	Time	Int	Act	Time	Int	
Oct. 12											
0000-0009								b	1417	3	
1331-2400								g	1458	2	
								b	1620	2	
								g	1648	2	
								b	1651	2	
								g	1654-55	1-	
								b	1656	1-	
								b	1657	1-	
								g	1730-31	1	
								b	1831	2	
								g	1834-35	3	
								b	1836	2	
								b	1839	1-	
								g	1846-47	1	
								b	1930	2	
								g	1950	1	
								b	2014	3+	
								g	2015-17	3	
								g	2100	2	
								b	2102	1-	
								g	2127-28	1	
								g	2143-44	2	
								b	2150	3	
								b	2236	1	
								g	2243	3	
								b	2321	2	
Oct. 13											
0000-0006		2036	1-					g	1344	3	
1333-2400								g	1432-33	2	
								g	1642-43	3	
								b	1650	3+	
								b	1722	2	
								g	1723-24	2	
								g	1811	1	
								g	1814	1-	
								b	1828	1	
								g	1910	3	
								b	2039	1	
								g	2055-56	1-	
								g	2207-09	2	
								g	2214-15	1-	
								g	2216	1-	
								g	2225	3	
								g	2229	1-	
								b	2235	2	
								b	2341	2	
								g	2353	2	
Oct. 14											
0000-0005								g	1347	2	
1332-2400								g	1808	1	
								b	2118	1	
Oct. 15											
0000-0005				Uncl.		2330-32	1	b	1426	2	
1333-2400								b	1431	1-	
								b	1753	1	
								C	1801	2	
								C	1902-04	2	
								g	1905	1-	
								b	1923	3	
								C	2000-02	2	
								g	2003-04	1	
								g	2005	1-	
								g	2006	2	
								g	2035	1	
								C	2047-48	2	
								g	2318	2	
Oct. 16											
0000-0005		1530-40	1-					b	1924	2	
1334-2400		1721	1					g	2059-2100	1	
		1757-1811	1-								
		1811-1906	1								
		1906-2010	1-								
		2029-58	1-								
		2132-33	1-								
		2208-12	1-								
		2251-59	1-								
		2316	1-								
		2341-42	1-								
Oct. 17											
0000-0005		1556-59	1					b	1331	2	
1330-2400		2209-49	1					g	1703-04	2	1911 Inverted U
								g	1911	3	Burst.
								g	1917	3	
								g	2212	1	

SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

OCTOBER 1958

Fort Davis — **100-580 Mc.**

Date and Observing Times (U.T.) 1958	Type I (Noise Storms and Continuum)			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Act	Time	Int	Act	Time	Int	
Oct. 18											
1334-2400		1407-11	1-					b	1518	2	
		1449-1825	1-					g	1520-21	2	
		1915-36	1-					b	1522	2	
		1936-2255	1					g	1635	3	
		2255-2321	2					b	1713	1	
		2321-50	1					g	1855-56	2	
								g	1914	2	
								g	1916	2	
								b	2212	3	
								G	2252-54	3	
								b	2302	3	
								b	2308	1	
								b	2312	1	
								b	2339	2	
Oct. 19											
1333-2400	Cont.	1333-2400	1					G	1442	3	1333-2400. This cont. is nearly of intensity 2.
		1335-1518	1					g	1444	3	
		1518-55	1-					g	1445	3	
		1555-1640	1					g	1453-54	3	
		1640-1730	1-					g	1605-06	2	
		1730-50	1					b	1655	2	
		1750-1829	2					b	1858	2	
		1829-1854	1					g	1901	2	
		1854-1958	2					b	1903	2	
		1958-2215	1					b	1907	2	
		2215-2311	1-					b	1930	1	
		2311-49	3								
								g	2035-36	2	
								g	2058	2	
								g	2148-49	2	
								b	2150	2	
								g	2324-25	3	
								b	2335	2	
Oct. 20											
1332-2355	Cont.	1332-2355	1					g	1451	2	1332-2355. This cont. is nearly of intensity 2.
		1332-1422	1-					G	1913-16	3	
		1458-1508	1-					b	1918	1	
		1524	1-					G	1919-21	2	
		1557-1611	1-								
		1637-38	1-								
		1649-50	1-								
		1658-59	1								
		1705-09	1-								
		1909-14	1								
		2056-2118	1-								
		2154	1-								
		2212-2348	1								
Oct. 21											
1332-2350		1334-1359	1	Uncl.		2328	3	g	1606	2	
		1414	1-	II		2328.5-41	3+	G	1950-52	2	
		1450-1505	1-					g	1953-54	1	
		1527-28	2					g	2010	2	
		1544-1621	1-					g	2326-27	2	
		1755-1819	1-								
		1819-44	1								
		1844-58	1-								
		1953-2030	1								
		2030-2121	1-								
		2121-2224	2								
		2224-2350	1								
	Cont. IV	2327-32	2								
	Cont. IV	2332-50	3+								
Oct. 22											
1333-2350		1432-56	1					g	1350	1	
		1535-36	1					b	1417	1	
		1558-1604	1					g	1427-28	1	
		1616-33	1					g	1430-31	1	
		1757	1-					G	1432-33	2	
		1822-24	1-					g	1440	2	
		1832	1-					G	1445-48	3	
		2005	1					g	1535-36	1	
		2112-13	1-					g	1537-38	3	
		2325	1-					g	1557	2	
								G	1558-59	2	
								g	1600-01	3	
								b	1602	3	
								g	1629	1	
								g	1634	1	
								b	1635	2	
								g	1639-40	1	
								g	1657	1	
								g	1704	2	

SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

OCTOBER 1958

Fort Davis — 100-580 Mc.

Date and Observing Times (U.T.) 1958	Type I (Noise Storms and Continuum)			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Act	Time	Int	Act	Time	Int	
Oct. 22 (Cont.)								g	1736-37	3	
								b	1739	2	
								g	1741-42	2	
								g	1746	1	
								g	1749	3	
								g	1751	1	
								G	1909-10	2	
								G	1923-26	3	
								g	1949	2	
								g	1951-52	1	
								g	2049	3	
								b	2057	3	
								g	2059	1	
								b	2130	1	
								g	2154	2	
								g	2247-48	3	
								g	2256	1	
								g	2335	1	
								g	2340-41	1	
								g	2345	1	
Oct. 23											
1334-2350	Cont.	1727-29	3					b	1346	1	1729.5-32. This unclassified burst has some features of a Type II burst.
		1735	1-	Uncl.		1729.5-32	3	g	1443	2	
		1750	1-					G	1727	3	
		1831	1-	Uncl.		1742-45	1	g	1826	2	
		1852-54	1					g	1832	1-	
		1919-20	1-					G	1833-34	1	
								G	1835	1-	
								G	1838-42	2	
								g	2110-11	1	
								g	2239	2	
								g	2319	1	
								g	2322	1-	
								g	2324	1-	
								G	2328-29	2	
Oct. 24											
1333-2350		1346-1402	1	II		1451.5-1500	3	b	1341	1	
		1402-51	2					g	1350-51	1	
	Cont. IV	1442-1507	2					g	1354	1	
	Cont. IV	1507-13	3					G	1443-45	2	
	Cont. IV	1513-16	2					g	1450	3	
	Cont. IV	1516-18	1					G	1644-46	3	
		2308	1-					g	1715	1	
								G	1826-28	3	
Oct. 25											
1333-2155								b	1650	3	
2204-2350								g	1755	1-	
Oct. 26											
1332-2350		2021-33	1-					g	2043-44	1	
		2325	1								
		2327	1								
Oct. 27											
1332-2345		1339-48	1-					b	1343	1	
		1421-38	1-					g	1347-48	2	
		1453-1508	1-					b	1410	2	
		1534-35	1-					G	1543-44	3	
		1557-1605	1-					b	1851	2	
		1620-2024	1-					g	2001	1	
		2024-2345	1					g	2003-04	2	
	Cont.	2304	2					G	2005-07	3	
								b	2109	2	
								g	2220-21	1	
								g	2224-25	3	
								g	2246-47	1	
								g	2249	2	
								g	2304	2	
								g	2329	2	
								g	2341	2	
								g	2355	2	
Oct. 28	Cont.	1334-2350	2					g	1346	2	
1334-2350		1334-1750	3					g	1350	2	
		1750-2227	2					g	1508-10	3	
		2227-31	3					g	1512	1	
		2231-2306	2					b	1539	3	
		2306-50	1					g	1721-22	2	
								g	1723-24	1	
								g	1954	2	
								G	1956-58	3	
								g	2001	3	
								G	2220-21	2	
								b	2243	2	

SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

OCTOBER 1958

Fort Davis

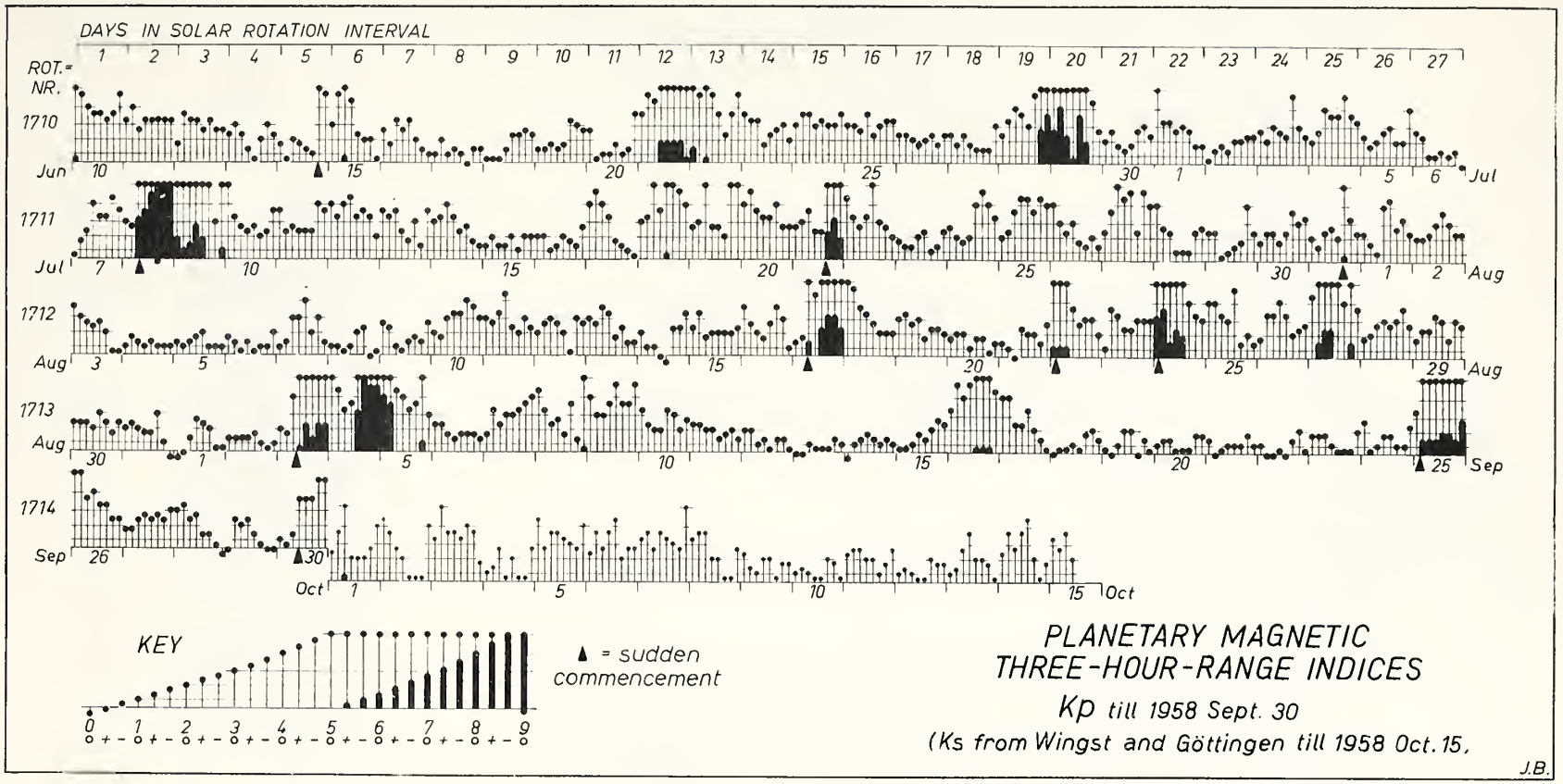
100-580 Mc.

Date and Observing Times (U.T.) 1958	Type I (Noise Storms and Continuum)			Type II (Slow Drift Bursts) Unclassified				Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Act	Time	Int	Ac*	Time	Int	
Oct. 29		1332-1713	3								
1332-1800	Cont.	1332-1800	2					g	2330	1-	
1805-2345		1713-1800	2					b	2333	2	
	Cont.	1805-1952	2								
		1805-1958	2								
		1958-2208	1								
	Cont.	1952-2253	1								
		2208-2230	2								
	Cont.	2253-2345	1-								
		2230-2345	1								
Oct. 30											
1330-2340		1334-1400	2								
		1400-1416	1					u	1636	3	
		1416-1525	2								
		1525-41	1								
		1541-49	2								
		1549-1633	1								
		1633-1859	1-								
		1916-31	1-								
		2002-20	1-								
		2040-47	1-								
		2102-16	1-								
		2140-45	1-								
		2152-2256	1-								
		2316-19	1-								
		2338-39	1-								
Oct. 31											
1331-1355		1334-38	1					g	1338	3	
1623-2345		1350	1					g	1340	2	
		1653-55	1					b	1946	1-	
		1712	1-					b	2019	2	
		1723	1-								
		1810-24	1					b	2222	3	
		1833-43	1-					b	2301	3	
		1859-1904	1-					b	2316	1-	
		1918-21									
		1942	1-								
		1952-2004	1-								
		2021	1-								
		2238-44	1								
		2259	1-								
		2316-30	1-								

GEOMAGNETIC ACTIVITY INDICES

Sept 1958	C	Values Kp Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	0.2	0o 0+ 1+ 3-	2+ 2o 1- 1-	10o	5	Five
2	0.2	1+ 1+ 1+ 1+	2- 1o 1- 1o	10-	5	Quiet
3	1.6	2o 2- 4o 5+	7- 6o 7- 7-	39o	64	
4	1.9	5o 4+ 3+ 4-	7+ 9- 8+ 8+	49o	131	13
5	1.7	8o 8- 4+ 4o	3+ 4- 6- 3o	40-	71	14
						18
6	0.3	2+ 2+ 2- 1+	2- 2- 2- 1+	14o	6	21
7	1.0	2- 3+ 2+ 3o	3o 3+ 4- 4o	24+	16	22
8	1.0	4+ 3+ 2+ 3-	2- 4- 1+ 5+	25-	20	
9	1.1	4o 3o 3o 4-	5- 4- 4- 5-	30+	25	
10	0.6	3+ 2+ 2o 2o	3+ 3o 2o 3-	21-	12	
11	0.3	2+ 2+ 2o 2o	1+ 2- 2o 1+	15o	7	Five
12	0.1	2o 2o 1o 1+	1- 1+ 1+ 1-	10+	5	Disturbed
13	0.0	0+ 0+ 1o 1-	1- 1- 1+ 1o	6o	3	
14	0.1	0o 1o 1+ 2-	1+ 1o 1+ 1o	9-	4	3
15	0.2	1- 1- 1o 2-	1+ 2o 3- 2+	12+	6	4
						5
16	1.5	3+ 5- 4o 5-	5+ 5+ 5+ 4+	37o	40	16
17	0.6	4o 4o 2+ 2+	3+ 2o 1+ 1-	20o	13	25
18	0.1	0+ 1- 1- 1o	1- 2- 2o 1+	8+	4	
19	0.1	1- 0+ 1o 2o	2o 0+ 1+ 1-	8+	4	
20	0.1	1o 1+ 1+ 1-	1- 1- 2- 2-	9o	4	
21	0.2	1+ 0+ 1- 1o	1o 1o 2- 1o	8o	4	Ten
22	0.2	1o 0+ 0+ 1-	0+ 1+ 2o 1-	7-	4	Quiet
23	0.1	2- 2- 2- 1o	1- 1- 1- 2o	10o	5	
24	0.4	3- 1- 1o 2-	2- 1o 1o 2+	12o	6	2
25	1.8	3+ 6o 6o 6o	6+ 6+ 6o 7o	47o	82	12
						13
26	1.1	5o 5o 4- 4o	3+ 3+ 2+ 2+	29o	25	14
27	0.6	2- 2- 2+ 3-	2+ 3- 2+ 3o	19-	10	18
28	0.4	3o 3+ 2+ 3-	1+ 1+ 1- 0o	15-	8	19
29	0.1	0+ 2+ 2o 2+	1+ 1- 0+ 0+	10-	5	20
30	1.1	1o 1- 1+ 4-	4- 4- 5- 5-	23+	20	21
31						22
						23
Mean:	0.62			Mean:	20	

COMMERCE - STANDARDS - BOULDER


DAYS IN SOLAR ROTATION INTERVAL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
ROT.-NR.
1710
Jun 10 15 20 25 30 1 5 6 Jul
1711
Jul 7 10 15 20 25 30 1 2 Aug
1712
Aug 3 5 10 15 20 25 29 Aug
1713
Aug 30 1 5 10 15 20 25 Sep
1714
Sep 26 30 Oct 1 5 10 15 Oct
KEY
0 1 2 3 4 5 6 7 8 9
▲ = sudden commencement
PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp till 1958 Sept. 30
(Ks from Wingst and Göttingen till 1958 Oct. 15,
J.B.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

SEPTEMBER 1958

Sept 1958	North Atlantic 6-hourly quality figures				Short-term forecasts issued about one hour in advance of:				Whole day index	Advance forecasts (J-reports) for whole day; issued in advance by:				Geomagnetic K_{Fr}	
	00 to 06	06 to 12	12 to 18	18 to 24	00	06	12	18		1-7 days Final	1-7 days Js	1-7 days SDW	1-7 days J	Half (1)	Day (2)
1	7o	7-	7-	7-	6	6	7	6	7-	6			6	1	1
2	7o	7o	7o	7o	7	7	7	7	7o	6			6	1	1
3	7o	6+	7-	5+	7	7	6	5	6+	6			6	3	(6)
4	4o	4-	5+	3+	3	4	6	4	(4o)	5			5	(4)	(7)
5	2+	2o	5-	5-	2	1	3	5	(3o)	3	3		6	(5)	(4)
6	5-	5o	6+	7-	5	4	6	6	6-	5	5		6	2	2
7	7-	6o	7o	6+	6	6	7	7	7-	6	6		7	3	3
8	6o	6-	7o	7o	6	5	7	7	6+	6	6		7	2	3
9	6+	6o	7-	7o	7	6	7	7	6+	6	6		6	3	(4)
10	6o	6-	7-	7-	6	6	7	7	6+	6	6		6	2	3
11	7-	6o	7o	7-	6	6	7	7	7-	6			6	2	2
12	7-	7-	7o	7o	6	6	7	6	7-	5			5	2	1
13	7o	7-	7+	7o	7	7	7	7	7o	5			5	0	1
14	7o	7-	7+	7o	7	6	7	7	7o	5			5	1	1
15	7o	7-	7o	7+	7	7	7	7	7o	6			6	0	2
16	7-	6o	6+	6o	7	6	6	5	6+	6			6	(4)	(4)
17	5o	5-	7-	7o	4	5	6	6	6-	6			6	3	2
18	7o	7-	7-	7o	7	7	7	7	7o	6			6	0	1
19	7o	8-	7-	7o	7	7	7	7	7o	7			7	1	1
20	7o	7o	7+	7o	7	7	7	7	7+	7			7	1	1
21	7-	7o	7o	7+	7	7	7	7	7o	7			7	1	1
22	7o	7o	7+	7-	7	7	7	7	7o	7			7	0	1
23	7+	7o	7+	7+	7	7	7	7	7+	7			7	2	1
24	7o	7+	7o	7-	7	7	7	7	7o	7			7	1	2
25	7o	4+	6o	5o	7	3	5	6	5+	7			7	(5)	(4)
26	2+	3o	5+	6o	4	3	4	6	(4-)	7			7	(5)	2
27	6o	5+	6+	6+	6	6	6	6	6o	7			7	2	2
28	6+	6o	7-	7-	6	6	7	7	6+	7			7	3	1
29	7o	7-	7+	7+	7	7	7	7	7o	7			7	2	1
30	7+	7o	7o	6+	7	7	7	6	7o	7			7	2	3

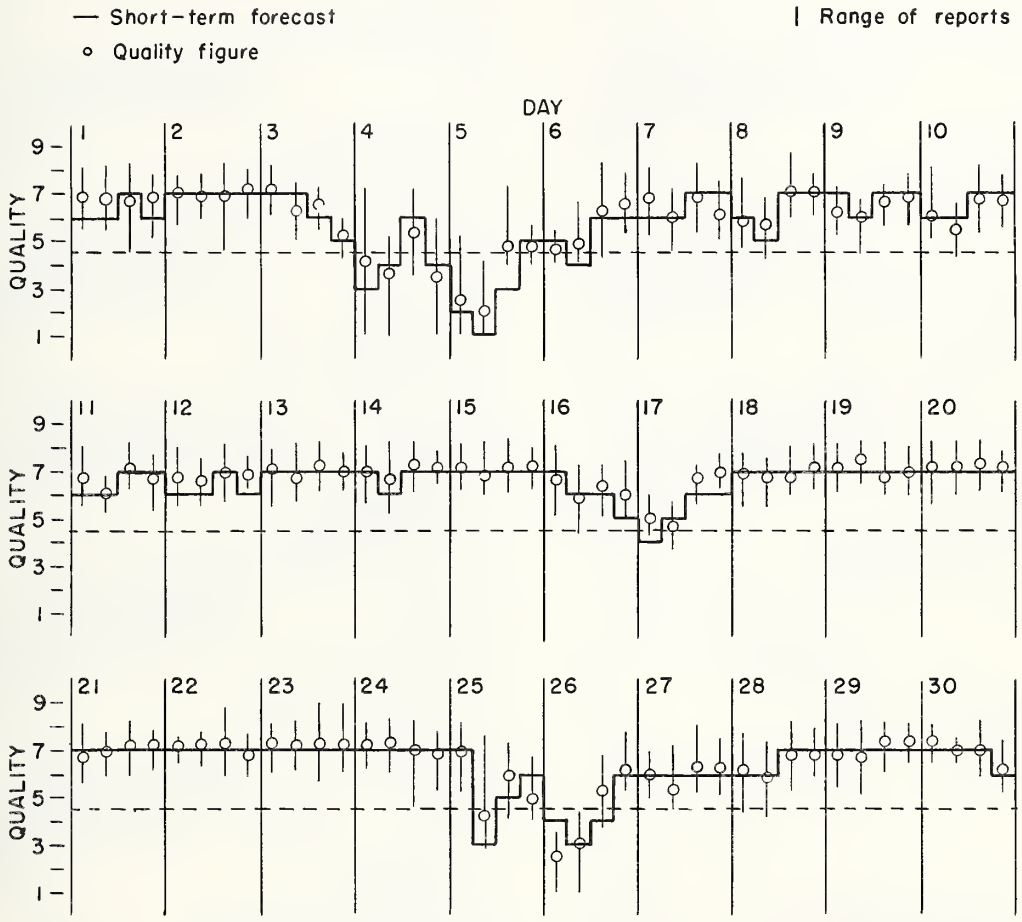
Score:													
Quiet Periods	P	21	18	24	22				14	3		15	
	S	6	8	5	7				9	2		8	
	U	0	0	1	0				4	0		4	
	F	0	0	0	0				0	0		0	
Disturbed Periods	P	1	2	0	0				1	1		0	
	S	1	2	0	1				1	0		1	
	U	1	0	0	0				0	0		0	
	F	0	0	0	0				1	0		2	

( ) represent disturbed values.

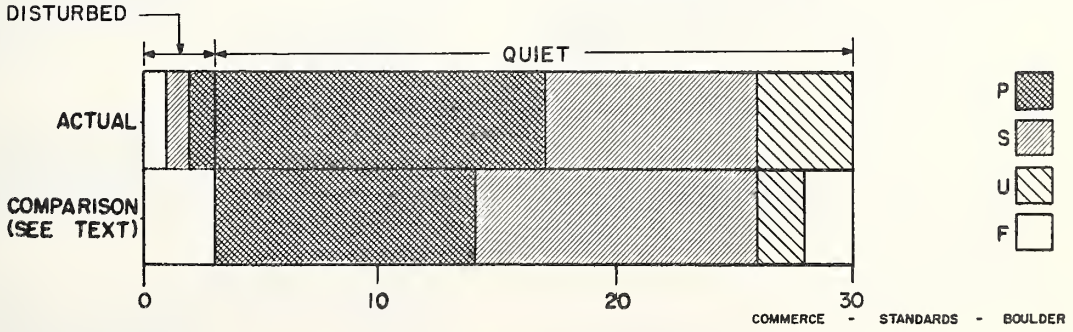
CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

SEPTEMBER 1958

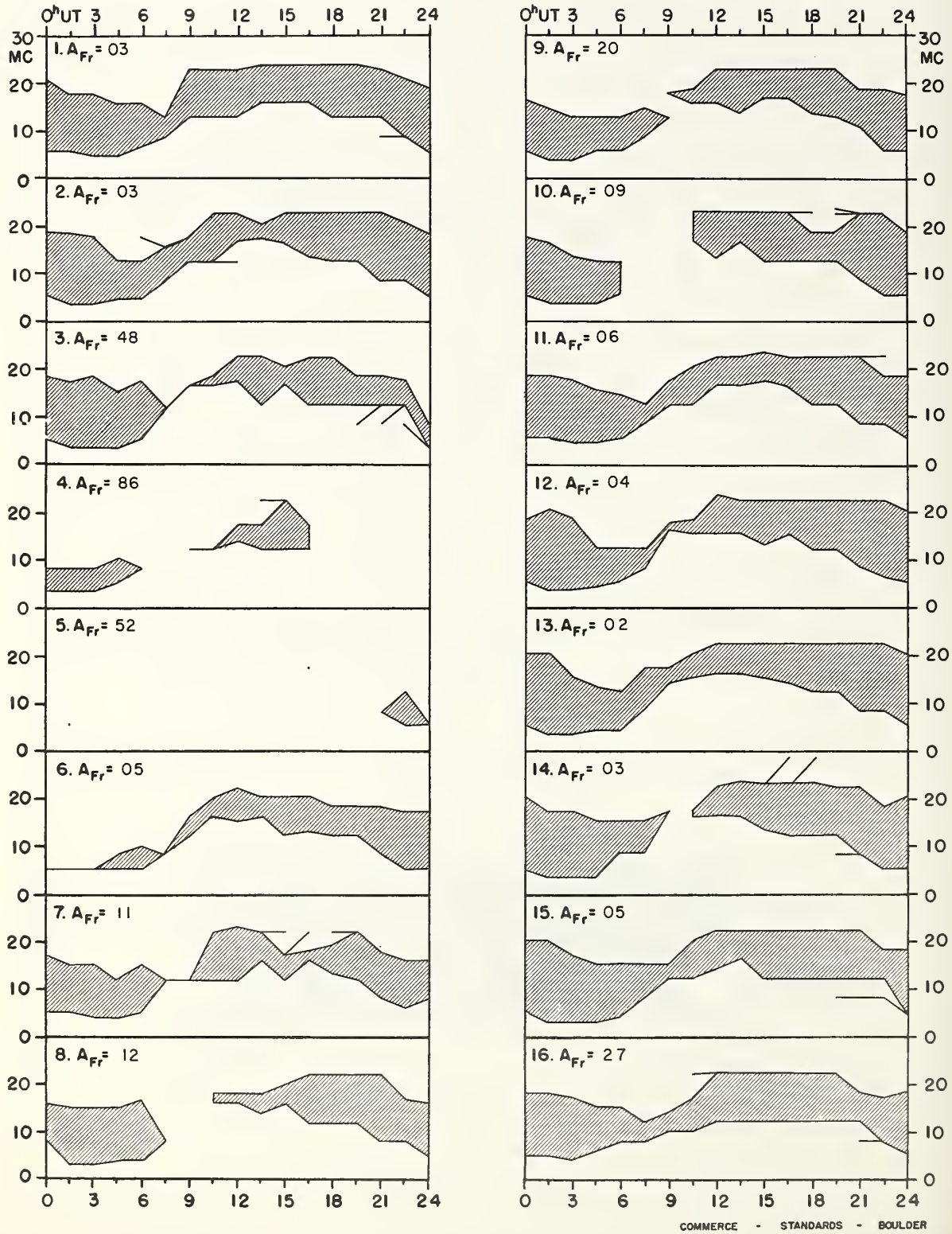


OUTCOME OF ADVANCED FORECASTS — FINAL ESTIMATE

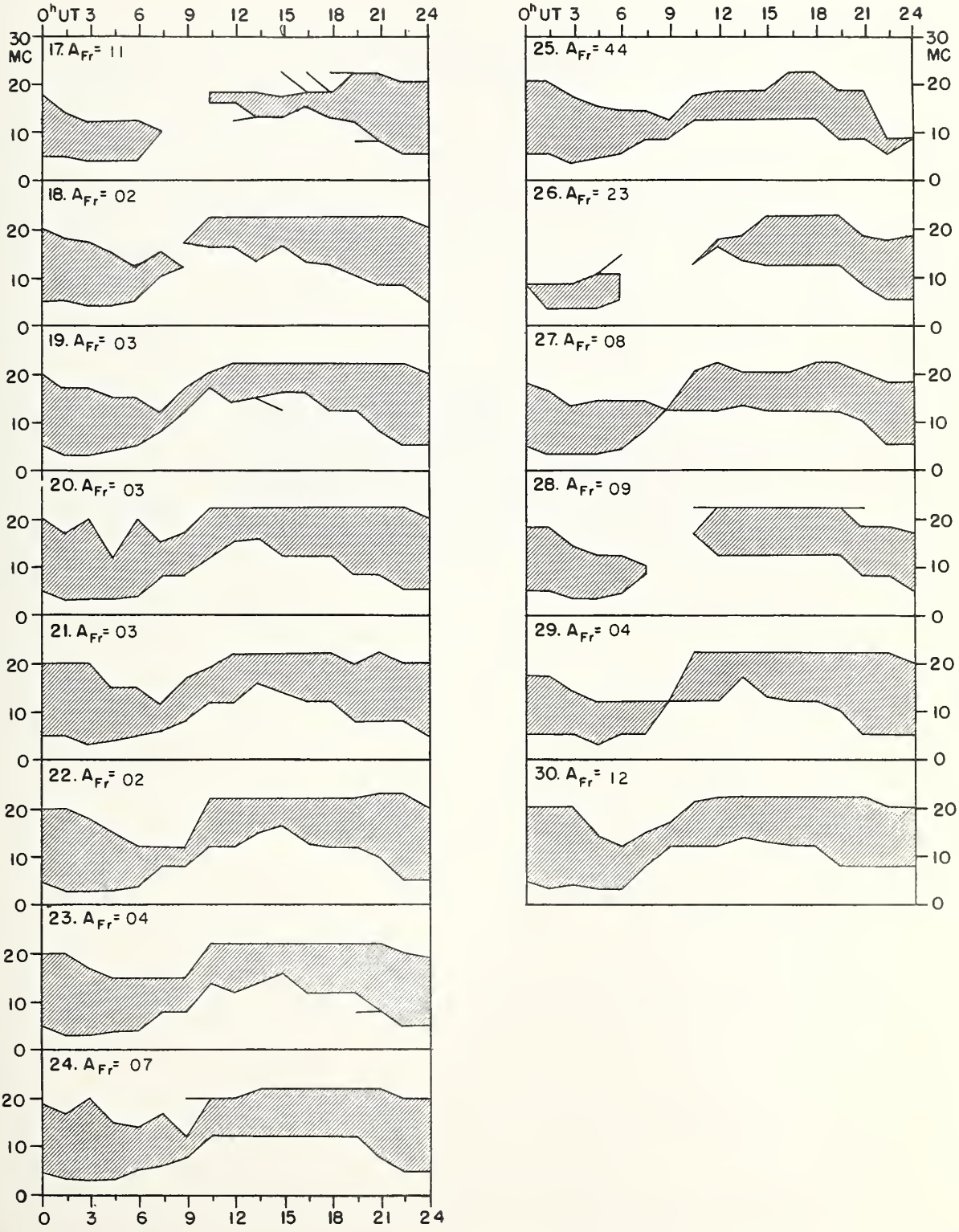


USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1958



SEPTEMBER 1958



Adapted from Observations by Deutsches Bundespost

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

SEPTEMBER 1958

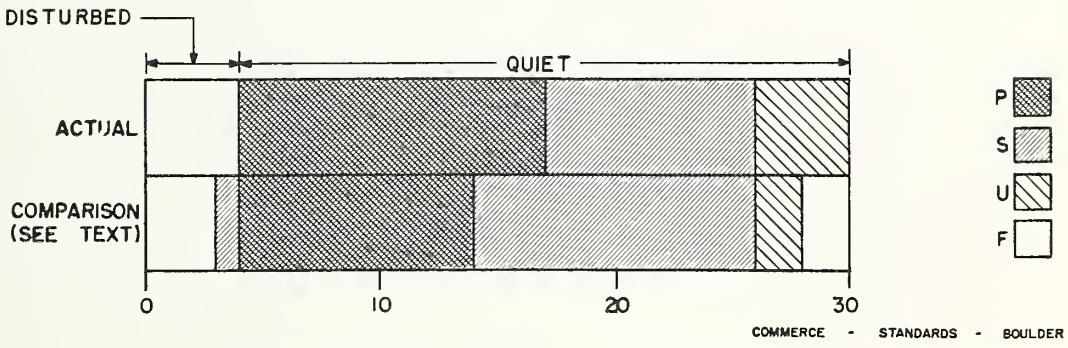
Sept 1958	North Pacific 8-hourly quality figures			Short-term forecasts issued at			Whole day index	Advance forecasts (Jp reports) for whole day; issued in advance by:			Geomagnetic K_{Si}	
	03 to 11	11 to 19	19 to 03	02	10	18		1-4 days	4-7 days	8-25 days	Half (1)	Day (2)
1	6	6	7	6	7	7	6	7	7		0	1
2	6	6	7	6	6	7	6	7	7		1	1
3	6	4	7	7	4	5	6	6	7		(4)	(6)
4	5	2	4	6	5	2	(4)	7	7		(4)	(8)
5	4	4	6	3	4	5	(4)	7	7		(5)	(4)
6	6	6	7	6	6	6	6	5	6		2	2
7	6	6	6	7	7	6	6	6	6		3	(4)
8	6	6	7	6	6	7	6	6	6		2	2
9	6	6	6	7	6	6	6	6	6		2	(4)
10	6	7	6	5	6	6	6	6	6		2	2
11	6	6	6	6	7	7	7	6	6		2	2
12	6	6	7	6	6	7	6	6	6		1	2
13	7	6	7	6	7	7	7	7	6		0	1
14	7	7	7	7	7	7	7	5	6		0	1
15	7	7	8	7	7	7	7	5	6		0	2
16	6	7	6	6	4	5	6	6	6		(4)	(4)
17	6	6	7	6	6	6	7	5	6		2	2
18	7	6	7	7	7	7	7	5	6		0	1
19	7	6	7	6	7	7	7	6	6		0	1
20	7	7	7	7	7	7	7	7	6		0	1
21	7	6	8	7	7	7	7	7	6		0	1
22	7	6	8	7	7	7	7	7	6		0	1
23	7	6	7	7	6	6	7	7	6		(4)	3
24	7	6	8	6	6	6	7	6	7		2	1
25	5	2	4	7	3	4	(4)	6	7		(6)	(6)
26	4	4	6	4	5	5	(4)	6	7		(4)	(4)
27	5	5	6	6	5	5	5	6	7		2	3
28	6	5	6	6	6	6	6	6	7		3	1
29	6	5	6	6	5	7	6	7	7		2	1
30	7	6	7	6	6	6	6	7	7		2	(4)

Score:								
Quiet Periods	P	17	14	13		13	8	
	S	10	10	13		9	17	
	U	1	0	2		4	1	
	F	0	1	0		0	0	
Disturbed Periods	P	1	2	1		0	0	
	S	1	2	0		0	0	
	U	0	0	1		0	0	
	F	0	1	0		4	4	

( ) represent disturbed values.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH PACIFIC
SEPTEMBER 1958

OUTCOME OF ADVANCED FORECASTS 1 TO 4 DAYS AHEAD



ALERT PERIODS AND SPECIAL WORLD INTERVALS

Alert Issued 1600 UT	Alert Ends 1600 UT	SWI Starts 0000 UT	SWI Ends 2359 UT	A_{Be} On days of Alert Period (SWI Underlined)	Number of Flares of IMP ≥ 2 Reported Promptly on Days of Alert Period
1958					
Oct 03	Oct 06			08-05-07-10	0-0-0-0
Oct 14	Oct 26	Oct 23	Oct 25	06-08-07-07-05-05-05-05-22-<u>20</u>-<u>50</u>-<u>04</u>-06	3-5-0-2-1-1-1-3-1-<u>0</u>-<u>1</u>-<u>0</u>-0